

Roman Lead Sealings

VOLUME I

MICHAEL CHARLES WILLIAM STILL

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UNIVERSITY COLLEGE LONDON
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ABSTRACT

This thesis is based on a catalogue of c.1800 records, covering over 2000 examples of Roman lead sealings, many previously unpublished. The catalogue is provided with indices of inscriptions and of anepigraphic designs, and subsidiary indices of places, military units, private individuals and emperors mentioned on the sealings.

The main part of the thesis commences with a history of the use of lead sealings outside of the Roman period, which is followed by a new typology (the first since c.1900) which puts special emphasis on the use of form as a guide to dating.

The next group of chapters examine the evidence for use of the different categories of sealings, i.e. Imperial, Official, Taxation, Provincial, Civic, Military and Miscellaneous. This includes evidence from impressions, form, texture of reverse, association with findspot and any literary references which may help. The next chapter compares distances travelled by similar sealings and looks at the widespread distribution of identical sealings of which the origin is unknown.

The first statistical chapter covers imperial sealings. These can be assigned to certain periods and can thus be subjected to the type of analysis usually reserved for coins. The second statistical chapter looks at the division of categories of sealings within each province. The sealings in each category within each province are calculated as percentages of the provincial total and are then compared with an adjusted percentage for that category in the whole of the empire.

The final chapter is based on the iconography found in the impressions on the sealings. This includes the styles of imperial portraits, deities, animals, inanimate objects, designs which may come from outside of the empire, similar impressions on other items, epigraphic styles and possible examples of matrices.

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Supplementary Material (bound in at back of Volume II)

Still, M.C.W., 1993, 'Opening up Imperial lead sealings', *Journal of Roman Archaeology* 6, 403-408.

Still, M.C.W., 1994, 'Some Roman lead sealings from Arzus', in Draganov, D. (ed.), *Settlement Life in Ancient Thrace - IIIrd International Symposium "Cabyle"*, Jambol, 389-395.

Still, M.C.W., 1995, 'Parallels for the Roman lead sealing from Smyrna found at Ickham, Kent', *Archaeologia Cantiana* cxiv (1994), 347-356.

CORRIGENDA

Volume I

Page 58, line 4: delete 'has' at the end of the line and insert it at the end of line 5.

p.88, line 6: for '*mansio*' read '*mutatio*'.

p.120, note 16: for 'Jarret' read 'Jarrett'.

p.203, bottom line: for '[1764]' read '[1765]'.

p.230, top line: for 'Jarret' read 'Jarrett'.

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Lothar Schwinden of the Rheinisches Landesmuseum Trier informed me that there are some unpublished sealings in the museum's collection but that Heinz Cüppers is hoping to publish them.

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Finally, I would like to thank my mother for her patience and understanding, without which this work could not have been completed.

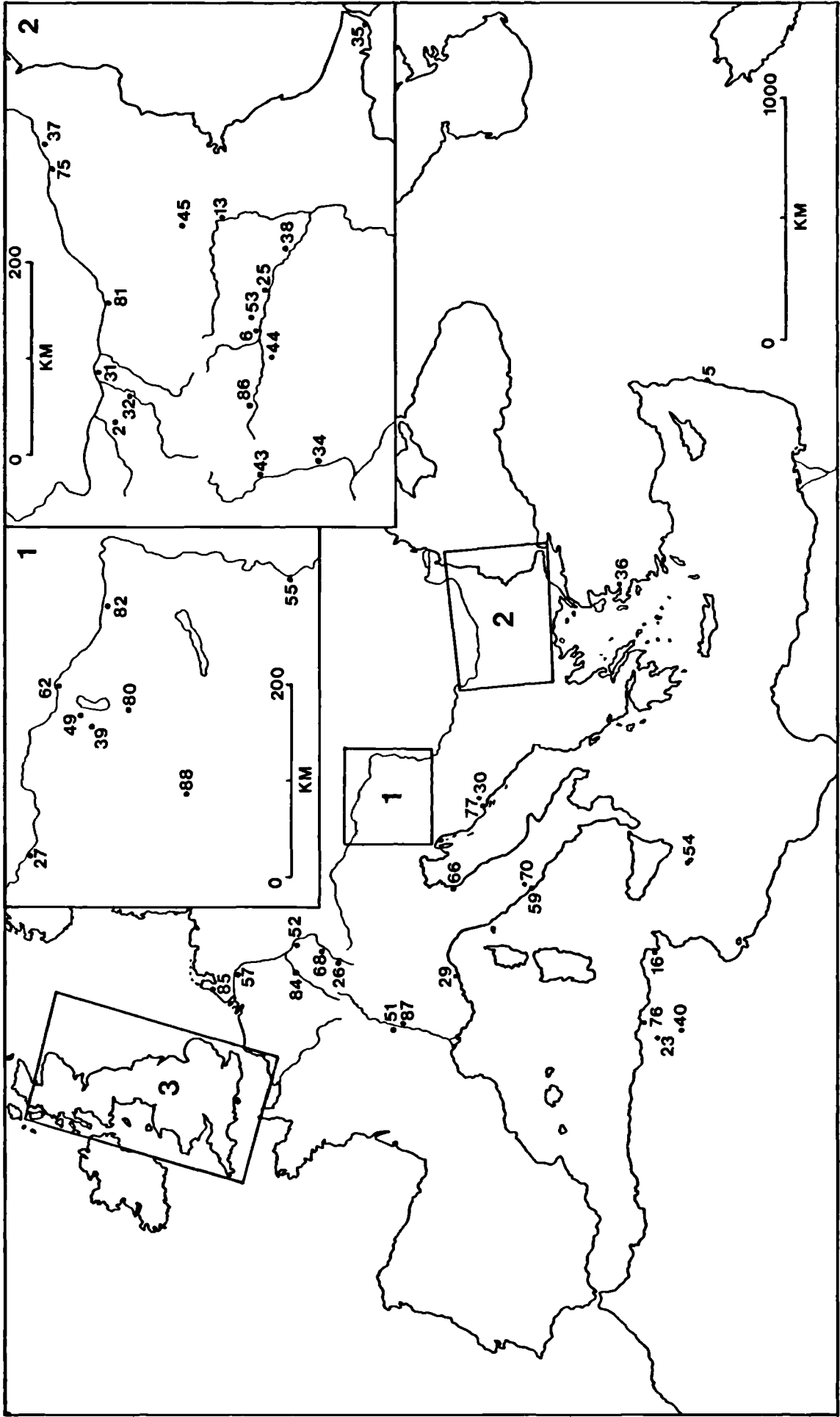
INTRODUCTION

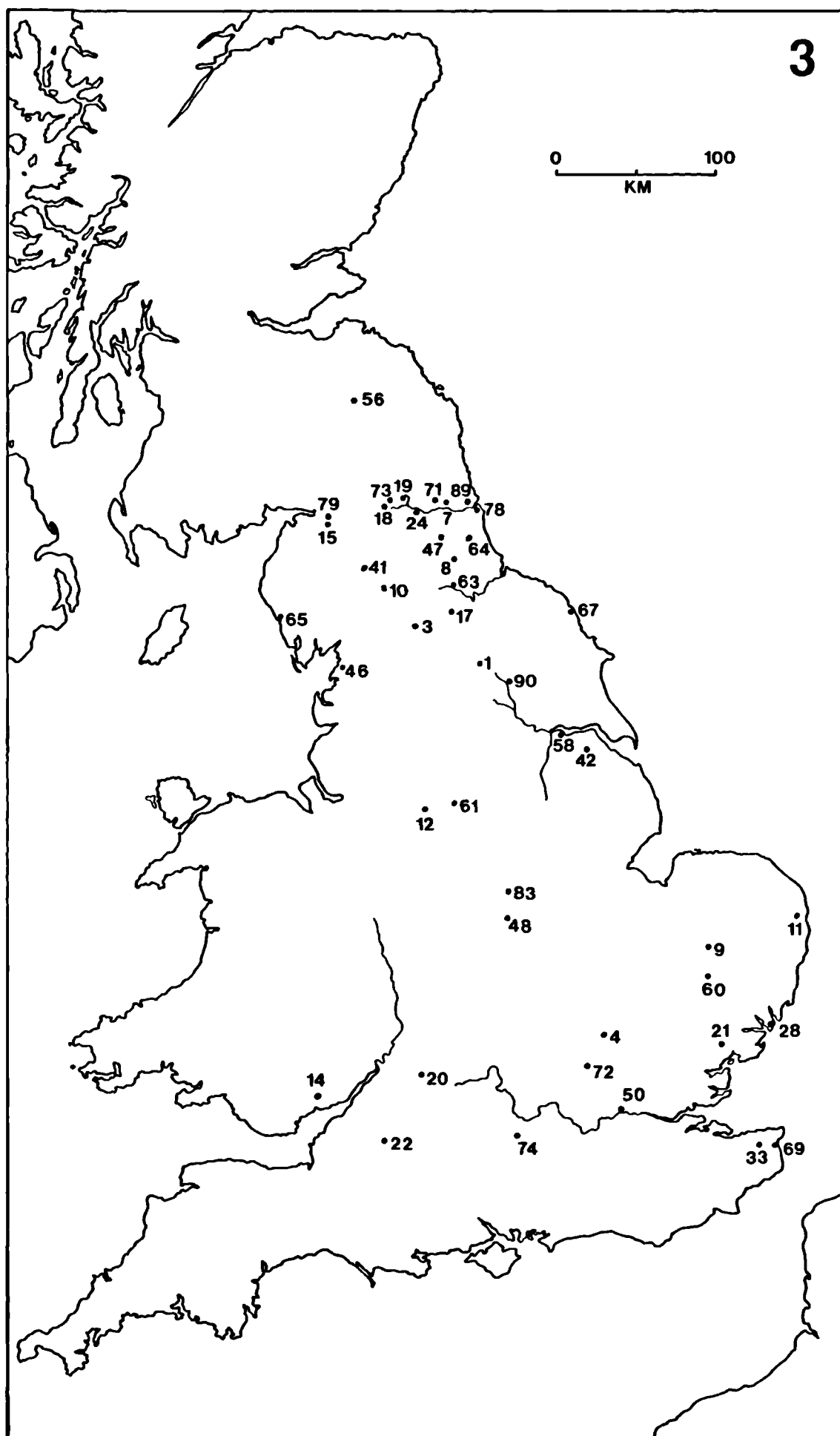
Several authors have expressed the need for an up-to-date detailed study and corpus of Roman lead sealings (Turcan, 1987, 10; Vons, 1980, 44-5; Dembski, 1975, 49). The most recent attempt at developing a typology and dividing sealings into categories had been at the turn of the century (Rostovtzeff, 1900, 1-21). That important work still forms the main pillar of lead sealings studies and rightly so. The rise of the metal detector in recent years, however, has produced large numbers of sealings which need to be integrated with the old material in the hope of enriching our understanding of their rôle in Roman life. I have therefore attempted to produce such a work. This has required a knowledge of glyptics, numismatics, trade mechanisms, military organisation, customs dues and tolls, etc.. Doubtless, specialists in these fields will be able to find many inaccuracies in my discussion of their subjects but it remains a fact that somebody had to make a start on this daunting task.

The work is centred on a catalogue of Roman lead sealings drawn together from many sources. It is the first corpus of Roman lead sealings from across the empire ever to have been formed. The majority of pieces have already been published although I have been able to correct many readings and interpretations in the light of finds from other sites. I am also pleased to have been able to include many important examples, mostly from Bulgaria and Hungary, which have never been published. This catalogue is by no means complete since there must be many more examples hidden in museum stores, especially in areas which I was unable to cover. Due to the restrictions of time I concentrated on writing to museums in those areas which had already produced published sealings. Even if I had been able to cover all museum collections there are many examples in private collections and, of course, new examples are constantly being discovered.

Once the catalogue was complete, I was able to use it as the basis for a discussion of many aspects of sealings which have never been addressed previously,

including the use of statistical analysis. This overview will hopefully draw together the valuable information which appears in the continual stream of isolated articles covering museum collections and metal detector finds.





LIST OF FINDSPOTS ON MAPS

(not including sites which have only produced examples in appendices)

No. on map	Site	Province	Modern Country
1.	Aldborough	Britannia	Great Britain
2.	Altınır	Moesia Inferior	Bulgaria
3.	Bainbridge	Britannia	Great Britain
4.	Baldock	Britannia	Great Britain
5.	Beirut	Syria	Lebanon
6.	Belosem	Thracia	Bulgaria
7.	Benwell	Britannia	Great Britain
8.	Binchester	Britannia	Great Britain
9.	Brettenham	Britannia	Great Britain
10.	Brough under Stainmore	Britannia	Great Britain
11.	Burgh Castle	Britannia	Great Britain
12.	Buxton	Britannia	Great Britain
13.	Cabyle	Thracia	Bulgaria
14.	Caerleon	Britannia	Great Britain
15.	Carlisle	Britannia	Great Britain
16.	Carthage	Africa Proconsularis	Tunisia
17.	Catterick	Britannia	Great Britain
18.	Chesterholm	Britannia	Great Britain
19.	Chesters	Britannia	Great Britain
20.	Cirencester	Britannia	Great Britain
21.	Colchester	Britannia	Great Britain
22.	Combe Down	Britannia	Great Britain
23.	Constantine	Numidia	Algeria
24.	Corbridge	Britannia	Great Britain
25.	Dimitrovgrad	Thracia	Bulgaria
26.	Ehl	Germania Superior	France
27.	Enns-Lorch	Noricum	Austria
28.	Felixstowe	Britannia	Great Britain
29.	Fréjus	Gallia Narbonensis	France
30.	Gardun	Dalmatia	Croatia

No. on map	Site	Province	Modern Country
31.	Gigen	Moesia Inferior	Bulgaria
32	Glava	Moesia Inferior	Bulgaria
33.	Ickham	Britannia	Great Britain
34.	Ilindentzi	Thracia	Bulgaria
35	Istanbul	Thracia	Turkey
36.	Izmir	Asia	Turkey
37.	Izvoarele	Moesia Inferior	Romania
38.	Kalugrovo	Thracia	Bulgaria
39	Katzelsdorf	Pannonia Superior	Austria
40.	Kenchela	Numidia	Algeria
41.	Kirkby Thore	Britannia	Great Britain
42.	Kirmington	Britannia	Great Britain
43.	Kocherinovo	Thracia	Bulgaria
44.	Koinare	Thracia	Bulgaria
45.	Kotel	Moesia Inferior	Bulgaria
46.	Lancaster	Britannia	Great Britain
47.	Lanchester	Britannia	Great Britain
48.	Leicester	Britannia	Great Britain
49.	Leithaprodersdorf	Pannonia Superior	Austria
50.	London	Britannia	Great Britain
51.	Lyon	Gallia Lugdunensis	France
52.	Mainz	Germania Superior	Germany
53.	Medovo	Thracia	Bulgaria
54.	Mellicha Bay	Melita	Malta
55.	Mohács	Pannonia Superior	Hungary
56.	Newstead	Britannia	Great Britain
57.	Nijmegen	Germania Inferior	Netherlands
58.	Old Winteringham	Britannia	Great Britain
59.	Ostia	Italia	Italy
60.	Pakenham	Britannia	Great Britain
61.	Peakley Hill	Britannia	Great Britain
62.	Petronell	Pannonia Superior	Austria
63.	Piercebridge	Britannia	Great Britain
64.	Pittington Farm	Britannia	Great Britain

No. on map	Site	Province	Modern Country
65.	Ravenglass	Britannia	Great Britain
66.	Ravenna	Italia	Italy
67.	Ravenscar	Britannia	Great Britain
68.	Rheinzabern	Germania Superior	Germany
69.	Richborough	Britannia	Great Britain
70.	Rome	Italia	Italy
71.	Rudchester	Britannia	Great Britain
72.	St.Albans	Britannia	Great Britain
73.	Sewingshields	Britannia	Great Britain
74.	Silchester	Britannia	Great Britain
75.	Silistra	Moesia Inferior	Bulgaria
76.	Skikda	Numidia	Algeria
77.	Solin	Dalmatia	Croatia
78.	South Shields	Britannia	Great Britain
79.	Stanwix	Britannia	Great Britain
80.	Strebersdorf	Pannonia Superior	Austria
81.	Svishtov	Moesia Inferior	Bulgaria
82.	Szőny	Pannonia Superior	Hungary
83.	Thorpe in the Glebe	Britannia	Great Britain
84.	Trier	Gallia Belgica	Germany
85.	Velsen	Germania Inferior	Netherlands
86.	Vetren	Thracia	Bulgaria
87.	Vienne	Gallia Narbonensis	France
88.	Wagna	Noricum	Austria
89.	Wallsend	Britannia	Great Britain
90.	York	Britannia	Great Britain

THE USE OF LEAD SEALINGS BEFORE AND AFTER THE ROMAN PERIOD

Pre-Roman use of lead sealings

If lead sealings of the Roman period have suffered from limited research in the past then those of earlier periods have been virtually ignored. It is very difficult to construct a chronology of these sealings although the earliest would appear to have been recognised in Bulgaria. One can suspect, although with no evidence whatsoever, that this practice had actually spread from Anatolia and probably further east.

The site of Cabyle, near modern Jambol, Bulgaria, is said to have produced a lead sealing dated to the fifth century B.C. (Gerasimova-Tomova, 1982, 142). It is thought to have originated in Apollonia on the Black Sea and shows an inverted anchor with a crab and part of the letter 'A'. This design is said to be identical to that on coins of the city dating to 440-400 B.C. However, in the same article, Gerasimova-Tomova claims that Garrucci (1862, 408ff., pl.xv) published the oldest known lead sealing, from the late sixth century B.C., showing Darius I. I have looked at this reference and the piece of lead is a *tessera* of some sort which Garrucci never suggested was a sealing.

The same site has also produced two lead sealings believed to date to the fourth century B.C. (Gerasimova-Tomova, 1982, 143-144). The sealings show a man on horseback with a wreath below the horse. Apparently, this combination is only found on the coinage of the Thracian king Seuthes III, the association being confirmed by the similarity in style and proportions of design on both sealings and coins. These sealings may show that goods were being sent from Seuthopolis to Cabyle in the fourth century B.C.

Several of the sealings included in my Catalogue may in fact be pre-Roman. Indeed, many could be Hellenistic but it is virtually impossible to separate them from the Roman examples.

There is a distinctive group of sealings from Sicily, bearing designs which appear to belong to the Hellenistic and Byzantine periods.¹ These consist of two roundels linked by a folded strip (for a section of a Roman example of this type see Fig. 1. no.4).

As for parallels, there are many examples of Hellenistic clay sealings (Selinus, Sicily: Salinas, 1883, 288ff., pls.VII-XV; Neo Paphos, Cyprus: Nicolaou, 1971, 51-53; Uruk, Babylonia: Rostovtzeff, 1932, 1ff., pls.I-XI; Richter, 1968, 165, nos.658-661; Seleucia: Mc.Dowell, 1935; Elephantine: Rubensohn, 1907, 7ff., pl.II; Priene: Wiegand & Schrader, 1904, 465, no.235) but apparently only two collections (see below) which enter the Roman period. All of these clay sealings are believed to have once been attached to rolled papyrus documents held in archives (Spier, 1992, 167).

The best known collection which includes examples from the Roman period is the group of several thousand sealings found in the Nomophylakion at Cyrene in Libya (Maddoli, 1965, 39-145). Although the preserving fire here occurred c.AD 117-118 during the Jewish Revolt, many of the impressions are said to date from the late Hellenistic period of the first century BC. However, perhaps we should bear in mind that many of the gems could still have been in use in the early second century AD and that therefore the sealings themselves may have been impressed much closer to the time of the fire. Thus we may also be seeing the continued use of this system well into the Roman period, perhaps not surprising when one considers Cyrenaica's retention of Hellenic culture.

The other collection which partially dates to the Roman period consists of thousands of sealings from an unknown site (probably near Diyarbakir in Turkey, perhaps ancient Doliche) and seems to date from the first century B.C. to the early

second century A D. (Spier, *loc. cit.*). The collection has been reconstructed theoretically from various museum collections and sale pieces ²

Post-Roman use of lead sealings

From the eighth to tenth centuries A D we find Islamic lead sealings inscribed in Kufic. These are often square, although sometimes circular, and have holes in the reverses through which a wire was passed.

Possibly the greatest use of lead sealings, however, was made during the Byzantine period. These were in use right up to the end of the empire. They are found in much larger numbers than those of the Roman period and served several purposes. One of these was to secure official letters. We are told by Pseudo-Kodinos that the emperor would use lead sealings when corresponding with *Despotai*, Patriarchs and other archontes of high rank (Verneaux, 1966, 175-6):

προς δε δεσποτας, πατριαρχας και τους λοιπους αρχοντας των εντιμοτερων
[σφραγιζει] δια μολυβδινης βουλλης

He would use sealings of gold or silver when dealing with people of higher rank. The majority of sealings belonging to officials, both civilian and military, and clergy, were found in Istanbul since this was the administrative centre to where reports etc. would be sent (Zacos & Veglery, 1972, vii). These sealings were always double-sided and were struck from cold blanks. The blanks had been pre-formed in moulds which were shaped to give a raised semi-cylindrical housing across the diameter for the thread-hole. The hole was kept clear using wire which was removed once the lead had solidified. The sealings were impressed by placing the blank between the retrograde-engraved jaws of a pair of iron pincers, the boulloterion, after threading the cord attached to the document through the hole in the sealing. The head of the boulloterion was then struck with a hammer and in this way the sealing was stamped with

a two-sided design while the thread was held in the crushed channel (Zacos & Veglery, *op. cit.*, xi).

Another type of Byzantine lead sealing was that belonging to *kommerkiarioi* (Zacos & Veglery, *op. cit.*, 131 & 135). These officials were in charge of the imperial warehouses and the collection of associated taxes and customs duty. In the provinces they supervised the supply and distribution of goods, while in the capital they dispatched them to the sales depôts. They were directly attached to the emperor and were therefore allowed to use his portrait on their sealings. These sealings date from the second half of the sixth century A.D. to the first half of the ninth century A.D. Some belonging to the sixth to early eighth centuries are unusual for Byzantine sealings in that they have a blank reverse, often showing the impression of a coarse material (Morrison, 1987, 5 & 7, fig.3). They must therefore have been stamped with a single matrix once the merchandise, thought to be silk, had been wrapped up.

Despite its high cost, Byzantine silk was highly sought after for its quality. In this way the lead sealings, which were really for customs purposes, came to be seen as a guarantee of quality. Goods of this sort reached the West through the trade fairs held at Pavia where they were sold by traders from the Byzantine-dominated Venice, Amalfi and Salerno. It appears to have been in the ninth to eleventh centuries that lead sealings came to be regarded as trade marks rather than customs labels among the cloth merchants of Western Europe (Endrei & Egan, 1982, 47-75). It happened at this time due to the ubiquitous nature of Byzantine goods in the area. By the twelfth or thirteenth centuries the sealings were even being imitated.

The use of lead sealings then radiated out from the two main textile exporting centres, Flanders and northern Italy. From Flanders it spread to neighbouring centres of woollen cloth production in north France, the Netherlands and western Germany. By the early fourteenth century the practice had reached the south of France while the first mention of it in England appears to be in 1380, although it had almost certainly been

current for some time by then (Sharpe, 1907, 145-6). It was not until the fifteenth century that the sealing in lead of woollen cloth began in southern Germany and Czechoslovakia and only in the sixteenth century that it was adopted in Poland, Hungary and Scandinavia.

Lead sealing for the cotton industry started in north Italy and then spread northwards in the fourteenth century. The linen industry took up the idea in the fifteenth century.

In England, cloth was examined by alnagers who would attach one sealing to each cloth to show that it had been checked and passed and that the subsidy revenue had been collected.

During the sixteenth century a number of examinations and sealings by various authorities were allowed at different stages of production such as after weaving, after fulling and after dyeing. The manufacturer would apply his sealing stating the length and then the alnage sealing would be added. This meant that, in theory, there could be over half a dozen sealings on each cloth. However, this seems to have been extremely rare (Endrei & Egan, 1982, 56).

There are three usual types of British cloth seals, single-, two- or four-disc (Endrei & Egan, *op. cit.*, 59). Single-disc examples are one piece sealings with a hole running across the diameter. They were probably connected with the dyeing process since designs on some of them bear similarities to the crest of the arms of the London Dyers' Company. Two-disc sealings are the most common of this period. They consist of two plates joined together by a thin strip. One of the plates bears a projection which was pushed through the hole in the other plate, prior to it being struck between two dies.

As far as alnage sealings are concerned, the change from two- to four-disc sealings occurred c.1610 or 1611, although the two-disc variety continued in use for

other purposes until the nineteenth century. Four-disc sealings consist of four plates in a line connected by thin strips. In use this line of plates was folded at the middle strip so that the projection in the plate at one end was passed through the hole in the plate at the other (Egan, 1994, viii). In its finished state, after striking, the sealing would have the appearance of two sealings i.e. a figure of eight configuration. This type was the standard alnage seal from the reign of James I. Many of the post-Restoration sealings bear the monarch's portrait and the similarity to representations on coins increased with time, including the adoption of a seated Britannia. In 1982 Geoff Egan knew of only two extant matrices used for cloth sealing: one for bay cloth from Bocking in Essex dated to the sixteenth/ seventeenth century and another from Suffolk said to date from the middle of the fourteenth century (Endrei & Egan, *op. cit.*, 67 and notes 80 & 209).

Alnage ceased in 1724 but in 1765 'searchers' were given the right to seal examined cloths. In 1821 it was recommended that the laws governing the practice were abandoned since they were completely ineffective but it was 1889 before they were repealed. However, the sealing of cloth had effectively finished long before this (Endrei & Egan, *op. cit.*, 58).

Starting with the first quarter of the eighteenth century, sealings were used more and more as company labels bearing control marks and consignment numbers. One of the major users of this type of sealing (both two- and four-disc) was the United East India Company (Egan, 1990, 87-89).

The lead sealings of most other countries are less well-researched but those of Portugal may hold some interest for us. De Mello mentions two types, mercantile and official (de Mello, 1979, 211-23). The mercantile bear only initials but the official show the Royal coat-of-arms and the badge of the particular fiscal department involved. He refers to several examples bearing the name of the *Casa dos Cinco* which was under the control of the Lisbon custom house and took its name from the five per cent tax charged on merchandise entering by land or sea.

A similar usage to cloth sealing was that of bale sealing. These lead seals were attached to packed bales, not individual cloths, by the packing companies themselves. This origin is shown on the actual sealings which usually state the name of the company, its location and the fact that they are packers (Endrei & Egan, 1982, 60 and note 154). Some examples of these were found in Minnesota and investigation into the London-based company names dated them to the early nineteenth century (Birk, 1975, 73-84).

The nineteenth and, presumably, the early twentieth century saw the use of lead for the sealing of sacks. These sealings appear to have been pre-moulded as two plates joined together by lead at the top and bottom (i.e. if we take one plate as the face of a clock, from c.11.00 - 1.00 and again from c.5.00 - 7.00). There is another, much thinner, strip of lead joining the two plates at c.9.00. Many of these sealings are found by metal detector users on farmland but most bear initials or indecipherable company names. However, the present author has two examples in his collection which seem to shed some light on their use. The first of these, bought in an antiques shop in Rochester, Kent and said to have been found in nearby Frindsbury, has the legend 'ANGLO-CONTINENTAL GUA[no] WORKS LTD' while the other, presented to me by the finder, Mr.L.Smith and found near Dartford, has a mostly illegible impression from which can be extracted the words '[Pe]RUVIAN' and 'GUANO'. Therefore it can be stated that one certain use of these sealings was to seal sacks of guano fertiliser. This also explains why they are found discarded on farmland. However, the author has also seen (on a coin dealer's stall in Oxford) an example bearing the name of 'SUTTONS SEEDS' which may suggest bulk supply of seed to farmers but also points out that even these lead sealings were not associated with a single product. The author also has in his possession several sealings bearing Cyrillic legends. The purpose of these is unknown but it reminds us that sealings of this period were not just a British phenomenon.

Lead sealings are still in use today, in widely differing rôles. They are used by customs officers in many countries, usually to prevent additional items being added to

previously checked baggage/containers. Turkish officials at the Syrian border seal up crates of archaeological finds travelling by land from Syria so that their colleagues at the European end of the country can ensure that no Turkish artefacts are being added and smuggled out.

Another modern use is that seen in Greece, where replica ancient vases have a loop of wire passed through the handle and then sealed with a pre-moulded sealing of a type very similar in form to the nineteenth/twentieth century examples mentioned above, but smaller. This practice does not seem to be restricted to one company or area of Greece.

It may seem odd to go so far beyond the chronological limits of our main area of study. However, I feel that this is valid since any information as to the application of lead sealings could be of some help in understanding the varied uses to which they were put in the Roman period. The possible similarities will become evident in later chapters.

Notes

1. See Type no.4 and note 6 in chapter 2, entitled 'Typology of Lead Sealings'.
2. Many of these clay sealings are identical. They have appeared in several publications, especially Maaskant-Kleibrink, 1971, 23-63.

Chapter 2

TYPOLOGY OF LEAD SEALINGS

It would be very convenient if all lead sealings could be divided up into set categories based on their overall shape. Rostovtzeff produced the first of these typologies (1900, 8-9) although, strangely considering his usual influence, it would appear that virtually no other authors have adopted this. Certainly, Culică devised his own for the publication of his largest collection (1975, 237). On the basis of my research, I would like to propose another typology which is outlined below and illustrated in fig.1. These illustrations are idealised and in most cases do not represent any particular sealing. The position of the string holes is also generalised and should not be taken as correct for all examples of that type.

The shape of a sealing is closely connected with the method of use since it is purely functional and not part of the design of the impression. Since use is dealt with elsewhere under separate category headings, however, we shall attempt to look at the main shapes found in order to see whether they can provide any dating evidence. This could be used in the future to assess the likely age of similarly shaped sealings. Unfortunately, many of the sources used do not provide the necessary information but the following details have been assembled from Catalogue entries taken either from sources which do, or from personal observation. If it can sometimes be difficult to allot a sealing to a particular type even with first-hand knowledge, then it can often be virtually impossible when only a written description is available. Therefore it has only been possible to use certain examples from the Catalogue for this particular survey.

1. Two-sided with different sized obverse and reverse resulting in flange around flan.

Uses: Imperial, Provincial; Military; Miscellaneous.

Examples: Imperial - [0009], [0271]

Provincial: [0312]

Military - virtually all sealings found in Britain (at least) of legions [0390-0423], alae [0444-0453], cohorts [0454-0523], beneficiarii [0524-0526], equites singulares [0527-0528] and pedites singulares [0529-0531].

Miscellaneous - [0678-0679]; [0694]; [0727]; [0731]; [0735 - 0736].

Date Range: Late first century - Fourth century.

These sealings were made using two separate (or possibly hinged) matrices. The matrix for the obverse must have taken the form of a container with sides. The molten lead was poured into this and then the matrix for the reverse was pushed into the container, thus forcing out some of the molten lead around the edges. This resulted in a large reverse with irregular edges and a smaller obverse with very regular, shaped edges. As I suggested above, these two matrices could have formed something resembling a *boulloterion* (a tool formed from two dies hinged together like tongs and designed to be hammered), rather than being separate. However, with military examples it is usually the container-matrix which bears the title of the unit and the basic stamp matrix which bears the name of the man in charge. This could suggest that the two were not joined because the more skilfully made container-matrix was designed to be used by various officers, either in the long term due to promotion or in the short term due to different shifts. Another reason for assuming that the two halves were not joined is that some people appear to have chosen to use their ring intaglios in place of the separate stamp. Obviously, their engraved stone was just as much a personal signature as any stamp bearing their name or initials. One possible reason for the fact that some sealings bear the impressions of stamps and others of gems could be that the officer would use his gem

whereas his men would use stamps bearing the officer's name or initials. However, and I prefer this idea, it could be that only centurions and decurions were allowed to seal packages but that many owned intaglios of an unsuitable material for impressing in molten lead and therefore had to have made special stamp matrices in order to conduct this sort of work. It has been said that a stone such as red jasper could stand such heat (King, 1872, 395).¹

It should be noted that the sealings which do not follow this 'rule' of having the unit name in the container-matrix are those which use a general purpose reverse which does not refer to individuals e.g. *exp(edivit)* on examples from *legio II Augusta* [0391 (7 examples); ?392 (4 examples); ?0400 - ?0401) and *legio VI* [0403] and *ex(pedivit)* on examples from the *beneficiarii consulares* [0524 - 0526]. This probably also applies to the *legio II Augusta* examples with FIT on the reverse, although I have not been able to check this. In these cases the manufacturers of the dies obviously never envisaged the need for close identification of the officers responsible so an easily interchangeable reverse was not required.

One of the Imperial examples of this type² [0271] is dated to the joint reign of Septimius Severus and Caracalla (AD198-209). The Provincial example is dated to the fourth century, by its apparent reference to the province of Maxima Caesariensis, as well as by the Chi-Rho. There is one legionary example [0417] from a dated context. It was found in a Roman drainage ditch with mid-second century material. I have limited the list of sealings of cohorts from dated contexts to just those which definitely conform to the shape in which we are interested.³ Two [0503 and 0504] were found with mid-second to early third century material, another [0506] was from a third/fourth century level while another [0507] was from a fourth century context. One of the examples belonging to the *equites singulares* [0527] is dated by context to c AD160-c.200. Two of the Miscellaneous examples [0678-0679] were found in a pit dating to the late first or early second century whereas [0727] is believed to be from a context dated c.AD160-c 200 and [0736] may be mid-second to early third century (Clay, 1980, 318).

The range of categories in which this style of sealing was used is heavily biased towards the official side, particularly the Military. This is clearly in keeping with the amount of effort and expenditure needed to make the specialised two-part mould necessary for the production of this type. It is difficult to see anything but a government-backed body being able to marshal the resources of die-engravers and bronze- or iron-workers on such a project. Apparently, none of these moulds has ever been found (the assumption that they have never been found, rather than just not recognised, is even safer if the two halves were originally hinged together). They were probably melted down for scrap or, due to their official nature, deliberately destroyed in the same way as coin dies or Byzantine boulloteria (Oikonomides, 1985, 3).

However, the irregular outlines to many of the container-matrices and the untidy inscriptions on both these and the top dies suggest that we may not be looking at metal equipment at all but perhaps at ceramics. The problem here is that these would surely have been found, even if deliberately broken, on account of the durability of pottery (unless of course they were crushed beyond recognition for security reasons).

2. Two-sided with various shapes of flan.

Uses: Imperial; Official; Provincial; Civic; Miscellaneous.

Examples: Imperial - [0091]; [0208]; [0211]; [0272]; [0273]; [0275]; [0278]

Official - [0290 - 0291].

Provincial - [0314-0315].

Civic - [0369].

Miscellaneous - Numerous records (see Catalogue) but few in terms of percentage of total Miscellaneous category.

Date Range: Late second century - Fourth century

This is the most common type of double-sided sealing, if only because it covers so many possible methods of manufacture. Sealings of this type may have been made in

several different ways: (i)Pre-moulded blanks impressed with a boulloterion struck with a hammer in the Byzantine style; (ii)pre-moulded blanks impressed using a fixed lower die and a hand-held upper die, just like coins; (iii)molten lead poured into something like a boulloterion which was then just squeezed in order to make the impression; (iv)molten lead poured on to a fixed lower die and then gently impressed using the upper die. It is quite possible that sealings of this type were made using any or all of the above methods. However, it is virtually impossible to divide them up into more detailed types since it is difficult to separate sealings made from pre-moulded blanks which have been formed badly or which have been squashed out of shape by being impressed from those sealings which were made and impressed simultaneously from molten lead and which therefore also have irregular edges.

Moulds for blanks of Byzantine sealings are known (Morrisson, 1987, 3-4) but, as yet, none have been found for those of our period. The blanks produced would presumably not have needed any further heating for their final application. This is the way in which Byzantine sealings were produced using boulloteria. Such tools may have been used as part of this process in our period and there is a published example of such a tool which bears an impression naming Constans as Caesar (Oikonomides, 1987c, 105-15). Some Byzantinists, however, believe that this particular tool is merely a mould for forging coins.⁴ The other way in which some of these sealings may have been used would have involved the use of molten lead. There would have been some difficulty in simultaneously positioning the cord or wire which had to pass through the sealings, but the problem would not have been insuperable.

Assuming that the identification of the various emperors is correct, Record [0091] can probably be dated to AD193, [0208] is 'Late Roman', [0211] dates to AD238-244, [0272] to AD198-209 and [0273] to the fourth century. Record [0275] may be early third century and [0278] could be mid-third century. The Official examples [0290] and [0291] date to the fourth century, possibly even c.AD375. The Provincial examples are also dated to the fourth century by the Chi-Rho which they both bear.

Here we see the Imperial category with a sizeable percentage of examples when compared to the numerically superior (but smaller in terms of percentage) group within the Miscellaneous category. Again, the resources needed for the production of a double die (whether hinged or not) favour official use. However, the less complex system (i.e. just two basic dies rather than one being mould-shaped as in no 1) could explain some apparently private usage within the Miscellaneous category.

3. Two-sided with squared-off appearance due to having been cut from a lead bar.

Uses: Imperial; Miscellaneous.

Examples: Imperial - [0011-0014] squared, cut-off chunks and [0197] squared, ?cut-off.

Miscellaneous - [1700].

Date Range: Last half of fourth century (with possible example from 3rd century)

These sealings appear to have been chopped off from a flat bar of lead, had thread holes made through them and then been impressed, either with or without boulloteria. Hassall suggests that [0011-0014] were struck cold (*Britannia* x (1979), 350). This could be correct since the tool used for [0011-0014] may well have been a boulloterion because on all four examples the obverse and reverse impressions are positioned the same way up, exactly in relation to each other. This appears to be true for [0197] as well. The less likely explanation for this positioning is that the sealer was being very careful in locating his upper and lower dies. Hassall also suggests that the thread holes were either drilled or punched through the metal. This seems rather unlikely when the probable amount of these sealings used is taken into account. Is it possible that the bars of lead were specially made with a pre-formed hole running through their length? Inspection of Hassall's drawings, with the position of the thread holes marked, does not

render this impossible although some of the channels are not quite parallel to the uncut edges of the bar

Records [0011-0014] can be dated to AD360-363 and, assuming a correct identification of the emperors, [0197] to AD367-375. Record [1700] is undoubtedly official in some way but is rather difficult to date. The style of engraving suggests that it is considerably earlier, perhaps even early 3rd century. However, its place in this category is only based upon the evidence of a photograph and so it may not belong here.

It is possible that this method was not used more often since it was realised that it was more efficient to mould several individual blanks connected by thin sprues than to mould thick bars which then had to be chopped up using some effort. Again, this amount of planning and organisation would be in keeping with the bureaucracy of the time.

4. Two-sided consisting of two plates, joined by a strip, clipped together.

Uses: Cohorts.

Examples: [0510] and two uninscribed examples mentioned under this entry.

Date Range: Third century.

Roman sealings of this form are extremely rare. Presumably the tool which crushed the two plates together also applied the inscription.

The inscription refers to *Cohors V Gallorum* who are attested at South Shields (the find spot of the sealing) in the third century ⁵

There are collections of similar examples, all from Sicily, which belong to this type but which appear to be either Hellenistic or Byzantine.⁶ It would not be inconceivable for some of those examples to date to the Roman period but I have not included them in the Catalogue. Otherwise, there are no other Roman examples of this

type of sealing known to me. The style does appear later as a cloth seal, the earliest in the Netherlands in the late thirteenth century and in England from the late fourteenth century (Egan, 1994, 1-2). There are also examples from the seventeenth, eighteenth and nineteenth century (Egan, 1994, 95, 99) and perhaps even more recently.

5. One-sided with swelling on blank reverse (sometimes rising from surrounding flan).

Uses: Imperial; Taxation; Provincial; Civic; Cohorts; Miscellaneous.

Examples: This is one of the most common shapes of sealing. There are numerous examples in most categories. Here we shall enumerate the examples with impressions of fabric or wood on their reverses.

Fabric impressions

Imperial - [0047].

Civic - [0368]?; [0380]?.

Miscellaneous - [0666]; [0864]; [1097]; [1411]; [1494]; [1647].

Wood impressions

Imperial - [0018]; [0022]; [0053-0054]; [0058]; [0067]; [0153].

Taxation - [0301].

Cohorts - [0521].

Miscellaneous - [0753], [0835B]; [0837-0838]; [0842], [0869]; [0881]; [0960]; [1025]; [1051]; [1058-1059]; [1068]; [1076]; [1084]; [1100], [1133]; [1164]; [1179]; [1248]; [1273]; [1321]; [1341]; [1369]; [1373], [1395]; [1396]; [1418-1419]; [1426]; [1428]; [1451]; [1478]; [1479]; [1508]; [1548]?

Date Range: Throughout Roman period.

The impressions on many of these sealings show the bezels of the rings or dies used to make them. It is virtually certain that rings, even with gemstones, were sometimes used. One sealing is said to show clearly the impression of alternating pearls and hearts which formed the decoration on the ring bezel [1207] (Dissard, 1905, 47-8).

The swelling on the reverse of these sealings can take many forms, including rounded, pointed, steep or shallow, since it is usually irregular. Quite often the slope of the swelling does not start from the actual edge of the flan but from a few millimetres inside. Sometimes the swelling can start from the very edge of the flan and be strongly dome-shaped. Sealings of this type must surely have been formed using molten lead at their actual moment of use, rather than being formed as blanks and then used later. We can be virtually certain of this since the stamping of a single matrix on one side of a cold, pre-shaped lump of lead would either leave little impression if the surface behind was soft, or would probably damage the blank reverse if the surface behind was firm. As neither of these has been observed we can probably assume that a small amount of molten lead was dripped on to the 'string' to be sealed and was then impressed with a matrix. This is reinforced by the depth of impression and rounded borders of some sealings.

Another factor in assuming that the lead was applied in a molten state is that some examples, albeit a minority, bear the imprint of either the weave of a textile or the grain of wood on their reverse. The only examples bearing the impression of fabric which I have personally examined are as follows: [0666] and [1647], with less certain examples [0368] and [0380]. It is only on [1647], [0368] and [0380] that the fabric imprint coincides with a large reverse swelling. It will be noted that the last two of these were only possible examples but, fortunately, the remaining example, [1647], bears the clearest of all fabric impressions. The temperature at which the lead would become molten would not have been sufficient to damage or burn either the 'string' or any fabric covering the packages. The reason that more sealings do not bear fabric impressions on their reverse swellings may either be through chance due to their having been applied at a temperature

which was not conducive to the reverse imprint being formed, or simply because the fabric was not present. However, we are still left to explain the enigmatic shape of the swelling on the reverse of these sealings.

It would seem that whatever backing the molten lead was applied to was pliable enough to give way and to allow the lead to form its own arbitrary shape. This is rather difficult to understand since, as I have already mentioned, the lead would not have passed through any fabric. It seems that in some cases we should consider a thin fabric covering behind which is a soft commodity of some description which gives way as the lead is poured on and stamped.

As for sealings bearing the accidental impression of wood grain, one unusual example is [0022] which has a swelling at one end of a flat reverse. The flat part of the reverse bears approximately six parallel lines, c.1.5-2 mm apart. One of these lines continues past the swelling. This may have been caused by the grain of wood but we are left to wonder how the swelling was allowed to form. One possible explanation could be that it flowed into a hole in the wood.⁷ This is unlikely to have been a knot hole since the line which passes close to the swelling does not deviate around it in the way that the grain would. This phenomenon of the probable impression of wood grain on only the flat part of a reverse with a swelling can also be seen on [0018] and [0753]. The published sources which give other examples said to bear the impression of wood grain on their reverses do not include any information on the exact position of the impression in relation to the swelling.

Ignoring the presence of accidental reverse impressions, one way to make sealings with this form of reverse is to drip the lead into sand or fine earth. However, this gives little support for achieving a good impression with the matrix, and seems rather strange if sealing packages was the aim. Perhaps we should consider drops of molten lead being poured on to something that would be attacked and eaten away by the heat of the lead, e.g. wax or resin.

The Imperial example with fabric impression may represent a young Caracalla whereas those with wood grain refer to Marcus Aurelius [0050], Septimius Severus, Caracalla and Geta [0053-0054] and [0058], and Caracalla alone [0049]

This method of manufacture seems to have been popular throughout our period, presumably on account of its simplicity and limited recourse to specialist tools

6. One-sided with flat reverse.

Uses: Imperial; Provincial; Civic; Cohorts; Miscellaneous.

Examples: Imperial - [0167]; [0181-0182]; [0185]; [0190]; [0196]; [0230]; [0279].

Provincial - [0320 - 0321].

Civic - [0324]; [0338].

Cohorts - [0521]; [0523].

Miscellaneous - [0799]; [0823]; [0940]; [1070]; [1080], [1085]; [1134]; [1177]; [1302]; [1440]; [1587]; [1589]; [1591 - 1592]; [1599]; [1603]; [1608]; [1615]; [1631]; [1693]; [1707]; [1742]; [1768]; [1782-1783]; [1794]; [1802]; [1809].

Fabric impressions

Imperial - [0279].

Provincial - [0321].

Miscellaneous - [1608].

Wood impressions

Civic - [0324].

Cohorts - [0521]; [0523].

Miscellaneous - [0940]; [1070]; [1080]; [1085], [1134]; [1177]; [1302], [1440], [1802].

Date Range: Early first century - fifth century.

These sealings appear to have been formed and impressed simultaneously at their moment of application, and not prepared as blanks to be used later. It is unclear exactly how they differ from type no. 5. It may be that these examples were applied and impressed using the same technique and that the only difference is that the molten lead was dripped on to a harder surface which did not allow a swelling to form. In fact there are examples of the same impression or similar ones referring to the same individual, some of which have a swollen reverse and others of which have a flat reverse. This may just indicate that these merchants were sealing different commodities or it could be that it is evidence that sealings of types no.5 and no.6 only differ in form due to the vagaries of manual application. As with type no.5 we find that some examples bear fabric imprints and wood grain impressions on their reverses.

The earliest imperial example of this type of sealing is probably [0230] which seems to bear a Julio-Claudian portrait. Three other examples, [0185], [0190] and [0196], appear to show Caracalla. Record [0279] shows a mid-third century emperor, perhaps Gordian III or Philip II while [0182] is thought to represent either Aurelian or Probus. Finally, [0181] bears a portrait of either the third or fourth century. One of the Provincial examples, [0321], also provides us with a date since it names a province which only existed between AD314/5 and 325. Two Miscellaneous examples, [1603] and [1608], bear monograms which would appear to date from the fifth century.

As for type no.5, this type of sealing was presumably popular for such a long time on account of its simplicity of manufacture, even if the exact method is unknown to us at present.

7. One-sided rectangular mould-formed bars.

Uses: Imperial; Civic; Miscellaneous.

Examples: Imperial - [0111]; [0192-0193].

Civic - [0367]

Miscellaneous - [1778]; [1785]

Date Range: Third - Fourth century.

The regular shape of these sealings and their flat reverses suggest that they were formed in some sort of mould. They may have been used as blanks which were cold-struck with the matrix or they may have been stamped while hot with a die which may have been hinged to the mould or may have been held separately. Some examples were formed in bulk inside a two-halved mould, for example [0367] which bears a seam mark around the edges and the remains of a cut sprue at one end. This also appears to be true for [0192]. Record [0111] does not appear to have any string holes but seems to have been attached by a nail which was driven in from the obverse.

Only the three Imperial examples can be dated. They all bear the legend 'DN' in one form or another and so can probably be dated to the third - fourth century.

Depending on the method used to make the blanks, this technique could be quite simple, given a small amount of preparation. The mould could have easily been made from pottery and so the only specialist equipment necessary was the matrix, which all sealing methods need. Therefore we should not be surprised at any private use of this technique.

8. One-sided with central nipple on reverse.

Uses: Imperial; Official; Miscellaneous

Examples: Imperial - [0243]; [0260]; [0267].

Official - [0287A]

Miscellaneous - [1614], [1731]; [1745]?

Date Range: Third century - Fourth century.

The presence of the central nipple would suggest that the reverses of all of these examples were formed in a mould of some description. This is definitely true of [0243] which has an otherwise smooth, shallow reverse with almost vertical sides, [1731] which has a large dome-shaped swelling surmounted by the central nipple and probably also of [1614] which has vertical edges.

The examples which can be dated seem to belong to the third - fourth century, e.g. [0260] which shows a third century imperial family, [0267] which probably shows a diademed fourth century emperor, [0287A] with its design of four soldiers with a standard which may be connected with representations on fourth century coinage and finally a possible entry in this type, [1745], which shows the fourth century (if not later) image of the Good Shepherd.

At first sight it is surprising that there is so much Miscellaneous use of this mould-manufactured sealing, since we have noticed that Government backing seems to be important in the use of a mould. However, when we look more closely at our Miscellaneous examples we can see that [1614] is an unidentified bust which could be imperial and the Christian symbolism of [1745] could also indicate some Official use. This leaves us with just [1731] which appears to bear a nomen preceded by an abbreviated praenomen. This may be the sealing of a merchant as I have assumed previously (Still, 1994, 391), being the exception that proves the rule, or it could possibly be the name of an official, thus explaining the form, although no rank or position is

given. It should be pointed out that another sealing bearing the same impression [1596A] does not appear to have the central nipple.

9. **One-sided with pedestal-foot projection on reverse.**

Uses: Legionary

Examples: [0439-0441].

Date Range: Early second century - ?

These are the only examples of this form which are securely dated to the Roman period. Gerasimova-Tomova believes that the projections were originally wedge-shaped and were then pushed flat when they were used (Gerasimova-Tomova, 1992, 71). However, she does not explain why they did not just bend to one side but instead splayed out forming another flat plate. Her theory could work if the projection had been pushed through a hole, perhaps in fabric, and had then been hammered flat, like a rivet. This seems to be what Culică had in mind (1971, 193-7). However, perhaps the lead was poured into something while molten, which allowed the foot to form, and was then stamped with the legionary matrix on the obverse. The 'rivet' through fabric interpretation is preferable since tearing of the fabric could explain how we are left with sealings with undamaged pedestal feet.

Culică dates these sealings to no earlier than the beginning of the second century AD on account of the (non-) movement of *legio XI Claudia*. However, he does attempt to narrow this down by suggesting that they might belong to the reign of Septimius Severus.

There are three other lead sealings with projections on the reverse but these projections seem to be much thicker and more solid than our examples here. These other sealings, all from Sicily, are of uncertain date, although one inscription is in Latin.⁸



It is strange that we only have sealings of this form produced by just one legion. It suggests that methods of sealing were organised on an *ad hoc* basis by the local commander. However, we should not forget that this strange type of sealing may have been used since it was necessary for whatever was being sealed

10. One-sided consisting of two plates

Uses: Miscellaneous.

Examples: [1511-1512].

Date Range: AD15-30.

These are apparently the only examples of this form. They are extremely small and Vons (1980, 44-53) believes that they were formed from two plates of lead between which the string was sandwiched. The plates were then crushed together and one side impressed using 'tongs', by which he presumably means some sort of *boulloterion*. He seems to suggest that this process may have taken place with or without the use of heat.

These examples are closely dated by their presence in a fort beyond the German frontier which was only occupied for approximately fifteen years. They are some of the earliest examples we have, although it is of interest that they differ so much from the usual size and style.

Experimental manufacture of lead sealings by the author

Following on from the methods of manufacture in the Roman period, I shall detail here my limited attempts to create sealings. Apparently, the only analysis ever carried out of the lead used for sealings was published by Richmond (1936, 122-3). Two illegible sealings from Brough under Stainmore were found to contain (i) 72.9% lead and 27.1% tin and (ii) 69.97% lead and 29.83% tin. This was likened to plumbers' solder (67% lead and 23% tin) which would be 'mushy or pasty' between 183°C and 253°C. There has

been one previous attempt to manufacture lead sealings but these were of an unusual blank 'droplet' type into which string was poked and no technical details are provided (Vons, 1980, 51).

I obtained a bar of leaded plumbers' solder (most is now lead-free for use with potable water supplies) and some hemp string. The problems noted below may well be due to a possibly different composition in modern plumbers' solder compared to that available in the 1930s. Alternatively, they could be due to an inadequate heat source (methyated spirits burner) which could only heat the solder to just inside its molten range.

It was encouraging to find that the molten 'lead' did not burn through, or even leave scorch marks on, the (undampened) hemp string. The same was true when the 'lead' was applied to a cork block, showing that the hemispherical/conical reverses on some sealings (Type 5) were not caused by the burning-away of cork bungs.⁹ I had some limited success in recreating similar reverses by pouring molten lead on to earth/sand, although I would not wish to suggest that this was the Roman method.

The main problem encountered was that the alloy I was using solidified too quickly to allow any decent impressions to be made. This would suggest either that the composition of the solder was wrong or that the temperature was insufficient to keep the solder in its semi-molten state (183°C - 253°C) for long enough. This therefore casts significant doubt over the relevance of the findings mentioned above.

Notes

1. This reference is from Henig, 1974, 33.
2. There are other sealings bearing similar impressions but it is not known whether or not they conform to this shape.
3. Other dated examples which are probably of this shape include Records [0454] (with residual Antonine material in Severan foundations), [0500] (in construction trench of a building provisionally dated c.AD85/90) and 0508 (in demolition layers over a drain in front of a Severan barrack block).
4. Pers.comm. J-C. Cheynet (Centre d'histoire et de civilisation de Byzance, Collège de France) 1992. The inclusion of S(acra) M(oneta) An(tiochae) in the exergue on the reverse would certainly suggest this. However, the production of such a complicated tool for nefarious purposes also raises questions over my earlier statements that the manufacture of such tools would require the marshalling of official resources. My defence would be that for the production of lead sealings the individual would not bother to produce a boulloterion, whereas for future monetary gain the initial outlay might well have been seen as justified.
5. Attested by *RIB* 1060.
6. The styles of the designs and inscriptions appear to fall either side of the period in which we are interested, although some doubtful examples possibly belong here. The majority are housed in the Department of Greek and Roman Antiquities of the British Museum, but there are two examples in the Musée des Beaux-Arts, Lyon and two in the Bibliothèque Nationale. Many of the British Museum's examples are published in Kaibel, 1890, 627-8, whereas the Lyon examples are in Turcan, 1987, 35 and the Paris examples in Rostovtzeff and Prou, 1900, 161.
7. Cf. the wooden writing tablet (the text of which refers to *legio III Cyrenaica*) from Egypt which has a rounded hollow cut inside a square border in order to accept a circular seal box (Devijver, 1989, 267-72)
8. They are in the collection of the Department of Greek and Roman Antiquities, British Museum and are published in Kaibel, 1890, 627-8, 2415.2, 6-7.
9. This lack of damage would also explain how sealings could be applied in a molten/semi-molten state to fabric which would then leave its imprint on their reverses

Fig. I



1



2 (i-ii)



2 (iii-iv)



3



4



5



5



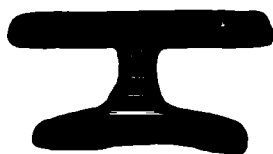
6



7



8



9



10

IMPERIAL SEALINGS - THE EVIDENCE FOR THEIR USE

Evidence from impression

Sealings referring to the *Ratio Patrimonii* [0016; 0052; 0119] - There are three sealings known which refer to the *ratio patrimonii*. They are [0016], [0052] and [0119], the first two of which are identical. They all appear to date to the reign of Septimius Severus, the first two from the period AD209-11 due to the reference to three emperors (ie. including Geta), the other probably from AD198-209 due to the inclusion of Caracalla but absence of Geta. The *ratio patrimonii* was the (department of the) account of income from crown property, although originally it had been the account of the emperor's private income from his personal property. It first appeared in the first century with the *ratio patrimonii* for Alexandria being attested in the mid-second century (*ILS* 1491) and a *procurator patrimonii* in Narbonensis during the reign of Marcus Aurelius (*AE* 1962, 183). It appears to have been reorganised by Severus with the result that in the third century we hear more of local officials such as those in Belgica and the two Germanies (*ILS* 1330), Bithynia and parts of Africa. Later in the third century however the post of *procurator patrimonii*, and presumably therefore the *ratio* itself, seems to have disappeared since it is no longer referred to. The date of the *ratio patrimonii*'s zenith is apparently consistent with the identification of the emperors on our three sealings. There are several references to officials of the *ratio patrimonii* in Rome revealing procurators, *tabularii*, *a commentariis* and a *custos* (*CIL* VI 3962; 8498-8509).

It is likely that these sealings were affixed to goods emanating from imperial estates (de Laet, 1949, 165). There is a parallel for this in the *tituli picti* from Monte Testaccio where some amphora sherds are marked *fisci rationis patrimonii provinciae Baeticae* with others referring to Tarraconensis (*CIL* XV 4097-4133 - Baetica;

4134-4137 - Tarraconensis; 4138-4142 - uncertain).¹ These have been interpreted as the produce of imperial estates with the painted inscriptions denoting the exemption from customs duties (de Laet, 1949, 292). It is possible that this exemption also applied to the glass unguent flasks which have *patrimoni* (RIB 2419.130-4) and *vectigal patrimo* (RIB 2419.154-5) hollow-stamped on their bases, although on other flasks the base usually just bears the maker's name and would seem an awkward place for information possibly needed in transit. The inscriptions are translated as '(product) of the (imperial) estates' and 'revenue of the (imperial) estates' respectively, although the latter is placed around a bust set inside a wreath. Returning to the sealings, their purpose may also have been to signal exemption (de Laet, 1949, 165, 430, n.1), but in addition I would suggest that possibly it was also to secure the goods in order to reduce petty thieving or prevent the inclusion of excise-payable goods by the transporters. Therefore the impression not only proved exemption *en route* but also, at the final destination, showed that the goods had not been tampered with.

Sealings referring to the *Ratio Castrensis* [0069 - 0072; ?0015; ?0032; ?0240] - There are seven sealings marked *R C* which are assumed to refer to the *Ratio Castrensis*, with three other possible examples. They are [0069](two examples), [0070], [0071](two examples) and [0072](two examples) with [0015], [0032] and [0240] as the possible examples. The *ratio castrensis* has been described as the account of that part of the military administration which acted for the emperor as head of the army (Grenier, 1934, 650-1). The same author then refers to it as the part of the administration which was responsible for the emperor's bodyguard, his wardrobe and his residences in various parts of the empire while fulfilling his rôle as commander-in-chief. In Rome we find many references to officials of the *ratio castrensis*. They held various posts such as procurator, *tabularius* and *dispensator* and the majority appear to have been imperial freedmen (CIL VI 8511-8536; 33735-33738).

The two sealings of Septimius Severus in his rôle of head of the army [0072] which were found in Lyon could easily be explained as supplies for the Praetorian Guard

or for the emperor himself on campaign during the siege and subsequent occupation of the city. However it is much harder to explain the presence in the same city of two such sealings of Marcus Aurelius with Lucius Verus [0069] and three of Marcus with Commodus [0070-0071] since there is nothing to suggest that any of these three ever visited Lyon at the head of an army. This tells us that we are wrong to assume that these sealings travelled with, or to, the emperor on campaign and that we should perhaps see them in a less romantic light, perhaps revealing the provision of supplies etc. possibly for the Urban Cohort of Lyon² or even for the upkeep of permanent official residences in the absence of the emperor.

Sealings referring to the *Anabolicum* [0042; 0048 - 0049; 0091 - 0094; 0106; 0271 - 0272] - There are ten sealings which refer to the *anabolicum*. They are [0042], [0048-0049], [0091-0094], [0106] and [0271-0272]. There are several theories as to the meaning of *anabolicum*, most of which are listed by Turcan (1987, 21-3). His preferred explanation is that it is a tax in kind collected in Egypt, where he cites a reference to a *procurator ad anabolicum Alexandrinum* (Vitucci, *Diz. Epigr.*, 943).³ The *Historia Augusta* (*HA, Aur.*, 45, 1) lists *anabolicae species* as glass, paper, flax and tow.⁴ Turcan says that these raw materials and finished products were requisitioned annually in Egypt, exported, and then redistributed from Rome for the benefit of the army. Apparently he makes no reference to the definition of το αναβολικον (the Greek form seen on [0049] without the definite article) which is given in Liddell & Scott as ‘deferment of payments’, the reference being *PAmh.2.131*.

Our examples appear to cover the reigns of Marcus Aurelius with Commodus, Pertinax, Septimius Severus with Caracalla and Caracalla alone.

Sealings referring to the *fiscus Alexandrinus* [0097A; 0115A] - There are two sealings pertaining to this organisation [0097A; 0115A] Apart from the reference to the *fiscus*, we can tell that these belong in the Imperial category since, in addition to the inscription FISC ALEX, [0097A] bears the portrait of an emperor, although opinions

differ as to whether this is Hadrian (Rostovtzeff, 1897, 471, 4) or Antoninus Pius (*CIL* XV 7974a). The *fiscus* of Alexandria was the treasury for the revenues derived from Egypt which was in effect an imperial possession. It is difficult to tell exactly how this differs from the *ratio patrimonii* of Alexandria which is attested in the mid-second century (*ILS* 1491). It could, however, be a precursor to the *anabolicum*. Both of these sealings were found in Italy, [0097A] in Rome (in the Tiber) and [0115A] probably in Rome. The Tiber provenance suggests that the items thus sealed were bulky enough to require unpackaging on the quayside. This renders unlikely a previous suggestion that this particular sealing came from a bag of money sent by the 'receveur d'Alexandrie' (Daremberg-Saglio, 'Tessera'). Perhaps the sealing was attached to sacks of Alexandrian grain or any of the items listed above as *anabolicae species*.

Sealings possibly referring to the *Annona* [0096 - 0097] -There are three sealings which may refer to the *annona* [0096-0097; 0116]. These attributions are all rather doubtful. Record [0096] bears an inscription which has been tentatively expanded by Mowat (1895, 217-219, no.13) as [Traian. De]CIVS [et fil.] AVGG., ANN(ona) although this does not hang together very well. Record [0097] is even less certain since its inscription is CSA / AVG which has been expanded, again by Mowat (1895, 217, no.11 & 219), as C(ontra) S(criptor) A(nnonae) AVG(usti). Record [0116] is equally uncertain since it bears the inscription G star AFDNAVGT RP around S star A. Dressel believed that S A stood for S(tationis) A(nnonae) (*CIL* XV, 7959). These three meagre pieces of evidence can in no way be taken as evidence for sealings referring to the *annona*. It is at first sight surprising that we do not have some definite evidence of *annona* sealings, considering the amount of sacks etc. which must have been involved.⁵ However, I would suggest that if they did ever exist they would probably only have been used as protection from pilfering since the sacks would have been the main, if not the only, cargo on the grain ships. It would therefore be ridiculous for every sack to be marked as being free from customs duty when virtually the whole load consisted of obvious imperial property. It might be the case that documents were carried by the ship's

captain to vouch for the tax-free status of his cargo⁶ but these would probably have been sealed with wax rather than lead.

Numbered sealings [0100 - 0101; 0120] - There are three sealings which apparently bear numbers, [0100] which has Ω (800) above busts of Marcus Aurelius and Lucius has Verus, [0101] which has ΩB (802) above the bust of Antoninus Pius⁷ and [0120] which the inscription THE / XXV on one side and an imperial bust (possibly Septimius Severus) on the other. Obviously there could not have been a discrete number for each sealing since they were being struck from matrices. Therefore the reason must be to identify (i) the user of the matrix, (ii) the department in which he was working or (iii) the relationship of the consignment to others, which could help, for example, in ensuring the use of perishable goods in the correct order. We have no way of knowing what the first two sealings were being used for but the *the(...)* of the third example has been interpreted as *theca* (envelope/case) or *thesaurus* (treasury/strong-box) (Garrucci, 1847, 55; 1866, 77). Despite the attraction of case or strong-box we must again remember that, due to their nature, sealings could not have been used to mark individual packets or boxes with separate numbers.

Dated sealings [0046; 0095] - Two sealings, [0046] and [0095], bear a date in the field to the right of a bust of Trajan. There is also the possibility that a dated sealing showing Serapis [1019], listed under miscellaneous in the catalogue, may also have some connection with whatever authority was using the two depicting Trajan. These dates use the Alexandrian regnal year system (Butcher, 1988, 115). Turcan states that our second example must have sealed a box belonging to the imperial post and coming from Alexandria (1987, 17) For our first example however, he says “comme le précédent, il scellait un envoi du service impérial venu d’Alexandrie” (1987, 18). It seems likely that these sealings did indeed belong to some branch of the imperial service, but we cannot conclude from the fact that they are dated that they necessarily sealed anything sent by *cursus publicus* (whether he means boxes of actual mail or not⁸). I feel that it is possible

to look too deeply into the reasons for the dating of these sealings. We should bear in mind the high level of bureaucracy in Egypt which is mirrored in the fact that Alexandria was one of the few places in the empire to place a date on its coins.⁹ Therefore I believe that there is no special reason for the dates on the sealings which means that they cannot help us to assess the use of those sealings.

Evidence from form and reverse

More information on the way in which the sealings were formed and attached can be found in chapter 2. Here we shall try to use the evidence of different forms in order to assess use.

If we look at the types of sealing then we find that the following are double-sided:

[0001], [0010-0014], [0023], [0064-0066], [0091-0093], [0099], [0106], [0114-0115], [0119-120], [0125], [0187], [0197], [0208], [0211], [0236], [0239], [0271-0273], [0275], [0278].

This may suggest that they were designed to be read on both sides and may have been loosely-fitted to the item or document to facilitate this. It is tempting to think of the Byzantine use of sealings where the majority were attached to thread which sealed letters etc. *en route* whereas others hung from documents and acted as a form of signature or guarantee of the contents (Oikonomides, 1986, 5-13, 1987, 101). However, if we return to the idea of bulk goods then there are several ways in which this type of sealing could have been used: (i) tied around knot/loose ends of rope securing the neck of a sack in order to prevent the sack being secretly opened (Still, 1993, 408); (ii) tied around knot/loose ends of rope bound around a bale or rope netting in which the bale is wrapped (*ibid.*); (iii) hanging from thread which has been passed through a catch or lock

mechanism on a box (Richmond, 1936, 106 although he is actually referring to military sealings).

Rather than list all of the numerous single-sided sealings we shall extract those examples which provide some evidence as to the nature of their attachment.

The reverse of one of the sealings mentioned above in connection with the *fiscus Alexandrinus* is depicted in Daremberg-Saglio ('tessera') as being blank with a swelling rising from the surrounding flan. Appearing at right-angles from this swelling are the four ends of two cords which presumably join in a knot inside the sealing. This is a sensible use of a sealing despite the fact that virtually all other sealings only have one cord passing through (although it is possible that the normal, apparently continuous, cord is actually two ends knotted together inside the sealing). The arrangement of the cords on this *fiscus* sealing suggest that it sealed neither a money bag nor a sack of grain but something more square, like a box or bale.

The following sealings bear the accidental impression of wood grain on their reverses:

[0018], [0022], [0049-0050], [0053-0054], [0058], [0067-0068], [0085], [0094-0095], [0100], [0105], [0153].

This suggests that these sealings were applied to wooden boxes, crates or even barrels. There is also a possibility that they sealed wax tablets, although there is no direct evidence for this.

The following show evidence of accidental cloth impression.

[0046-0047], [0069], [0083], [0098], [0101-0102], [0110], [0279]

It seems likely that these examples would have been affixed either to sacks or to bales covered in cloth

Whereas the above examples were all held in place by thread passing through them, the next three were apparently nailed in place:

[0063][0113][0235].

This suggests that they were fixed to wood, presumably a crate. It would not be impossible for this technique to seal the lid of a crate by virtue of the nail passing through, although it seems rather strange.

Evidence from association with findspot

Severan sealings at South Shields [0021 - 0022] - The group of sixteen lead sealings found at South Shields are generally said to be connected with the use of that fort as a supply base for Septimius Severus' campaign in Scotland (Frere, 1987, 159-161). Despite the danger of attempting to link archaeological evidence to specific historical events, this seems likely although we do not know the nature of the supplies thus sealed. Is it a question of food, clothing or arms? The archaeological evidence for South Shields being used as a supply base is that twenty or so additional granaries were built which left little room for anything else. We also know that Corbridge was the contemporary depot which handled weapons and armour (Dore & Gillam, 1979, 63) so it seems likely that the South Shields sealings were attached to supplies of food, especially corn. Dore & Gillam (*op.cit.*, 64) believed that the corn was being brought up by sea from further south in England, while Birley adds to this the Rhineland (1988, 173). Johnson actually states that analysis of a sample of the corn has revealed that it is more likely to have come from the continent and he again chooses the Rhineland, although he fails to tell us his source (1989, 85, 105-6). This corn had presumably been collected either as compulsory

purchase (*frumentum emptum*) or as one of the 'irregular practices' which eventually led to the *annona militaris*, taxation in kind for the provisioning of the army (Rickman, 1971, 278; Rostovtzeff, 1957, I 484, 517; II 712, note 15),¹⁰ or even as the rent or tax gathered from the tenants of imperial estates (Thompson, 1987, 560; 566-7)

Thus it appears that these Imperial sealings had little connection with the person of the emperor himself. The only exception to this would be if the produce collected by compulsory purchase or as the *annona militaris* only received imperial sealings when it was required for specific campaigns involving the emperor, in which case the proximity of the emperor would indeed have some bearing on the presence of the sealings. Despite this possibility, the most important point remains the fact that these Imperial sealings were not for the emperor's personal use but for that of his army, and then seemingly only when on campaign. Broadly speaking, the emperor, through various agencies,¹¹ was always responsible for supplying the army and so these sealings should not come as a surprise (Garnsey & Saller, 1987, 89). There may be a fourth century development of this expeditionary supply use in chapter 4 ('Official Sealings - The Evidence for their Use') where the Praetorian Prefect of the Gauls appears to be supplying an army on campaign.

Trajanic sealings at Svishtov [0162 - 0164] - There is a similar case at Novae (Svishtov) in Moesia Inferior, where three sealings were found, all of which apparently refer to the emperor Trajan. These are also used as evidence of supplies for a military campaign, this time in Dacia (Mrozewicz, 1981, 82). Again, we are apparently seeing Imperial sealings being used for military campaigns conducted in person by the emperor. We do not know if Trajan himself ever visited Novae during these campaigns¹² or on his tour of the Danube frontier in AD98/99 but it seems more likely that, like the South Shields examples, these sealings belonged to military supplies rather than the emperor's personal baggage. Lepper and Frere (1988, 92-3) list three main invasion routes which are popular among strategists and only one of these lies close to Novae. However, I do not mention this in order to use the sealings to justify this route (following the valley of

the River Olt), only to suggest that if the invading armies used one of the other routes, the sealings could belong instead to the period after the conquest and relate to the consolidation of the new province of Dacia. In this case they could presumably still be considered as military supplies organised by the emperor for a special task which kept the units away from their bases. Although these supplies could not have been the *annona militaris* as suggested for the Severan examples, they could easily represent items gained through the earlier system of compulsory purchase.

Imperial sealings at Izvoarele [0134A - 0158; 0168; 0171-0176] - The presence of the sealings here could have some connection with the suggestion that Sucidava (Izvoarele) was one of the two unnamed frontier towns which were turned into customs stations/markets after Valens made peace with Athanaric in AD369 (Diaconu, 1963, 548-50; Barnea, 1969, 23-4 and his note 7; Still, 1995, 354). The terms of the treaty meant that the Visigoths had to confine their commercial relations with the Romans to these two towns (Themistius 135 bcd). The comparatively large collection of imperial sealings could have been attached to goods being sold at these markets which the barbarians were allowed to attend. These goods could have been obtained by the imperial authorities in the form of rent or tax in kind from imperial estates and then sent to Sucidava (and the other unknown site) to take advantage of this virtual monopoly. If we reject the notion of imperial goods for sale, but retain the idea of the Visigothic market, then the sealings could simply denote supplies to the army unit which would undoubtedly have been present to oversee the proceedings. The site is sometimes described as a fort so the military presence may well have been permanent although this still does not explain the relatively large number of imperial sealings.

Continuing with the idea of military supplies, we know from Ammianus Marcellinus (27.5.2.) that a couple of years earlier, in spring AD367, Valens had drawn up his army at a base near a fort called Daphne, prior to crossing the Danube by a bridge of boats. This fort has been linked with the site at Izvoarele (Diaconu, 1971, 311-318)

and so perhaps our sealings can yet again be connected with a particular campaign led by the emperor himself.

Imperial sealings throughout Thrace [0230 - 0270] - It should be noted that the majority of sites producing imperial sealings in Moesia Inferior were forts whereas in Thrace approximately half, if not more, were possibly road stations of one type or another.¹³ This opens up several possibilities, though not all are mutually exclusive. The situation is confused by the current lack of knowledge concerning the development of road stations in general. Even our standard idea of the sealings being attached to military supplies is no longer as clear-cut as usual:

- (i) supplies for armies passing through on well-planned campaigns.¹⁴
- (ii) supplies for frontier troops (*limitanei*) and mobile field-army units (*comitatenses*).¹⁵
- (iii) supplies for military units stationed at the road stations.¹⁶

Other options are:

- (iv) supplies for the emperor's personal entourage when passing through on planned campaigns - see (i) above.¹⁷
- (v) supplies for official (but not overtly military) staff of the road stations.¹⁸
- (vi) supplies for the animals of the *cursus publicus*.¹⁹

Several of these ideas are clearly untenable for certain sealings which are thought to show Nero and other early emperors.

Another option suggested to me for one site, Kalugerovo (ancient Arzus), is that it fulfilled the rôle of an *emporium* (*pers. comm.* Dr. Gerasimova-Tomova) which could explain the large number of sealings of different categories²⁰ However, unless we envisage the state selling off a surplus of rent/tax from imperial estates, as suggested at Sucidava, the imperial sealings would still have to fit into one of the above options

Imperial sealings at Ickham [0010 - 0014] - These sealings, one of Constantine II as Caesar (AD317-37) [0010] and four of Julian (AD360-3) were found on the site of a large Roman masonry building (?granary) near Canterbury. The site is on the nearest high ground to a late Roman water-mill, 1100m away, used for metal-working as well as corn-milling, which apparently supplied the Saxon Shore forts of Richborough and Reculver (Young, 1981, 32-40; Still, 1995, 347-356). If we can accept the military nature of the industrial site and a connection between the two sites then we again have imperial sealings in a military context.

Frere obviously sees these as provisions for campaigns since he links Constantine II's sealings with the expedition of Constans in 342/3 and those of Julian with the campaigns of 367, saying that 'the packages concerned had been sealed up some years previously in each case' (*RIB* II, 1, 88)²¹ This is not impossible but does seem rather laboured so perhaps we should see them as regular supplies even though there are so few. Another apparent problem is that Frere therefore connects these supplies with a field army (*comitatenses*), whereas Young links the nearby industrial site with the Saxon Shore forts and therefore the *limitanei* (*ibid.*). However, we should remember that the post of *comes Britanniae* and the associated mobile field army may only have been set up towards the end of the fourth century (Mann, 1989, 11), so any preparation of supplies for a mobile army arriving in the south-east would, by default, have to be carried out by the men of the Saxon Shore. Alternatively, if the officer in charge of the Saxon Shore had already been promoted from *dux* to *comes* at this date it would remove the distinction, since Mann thinks that the post could have been of full comital rank, at least by AD367 (Mann, 1976, 6). On the other hand it could be as simple as the newly-arrived *comitatenses* commandeering the masonry building as a storehouse with river access to the English Channel.

The *limitanei* would not have needed extra supplies for campaigning since they were permanently stationed on the Saxon Shore but if we see the *comes Litoris Saxonici* commanding a mobile army (Johnson, 1979, 146) at the dates represented by the

sealings, then we could possibly imagine some minor expeditions which qualified for extra supplies. This is only a hypothesis and should be treated with caution. Another option is that we should see these sealings as belonging to everyday supplies for the *limitanei*, although this does not fit in with our evidence for the earlier periods.

Evidence from written sources

We know that any goods related to the imperial fisc were exempt from duty. This is explained clearly in *Dig. XXXIX, 4, 9, 8*:

Fiscus ab omnium vectigalium praestationibus immunis est.

The author, Iulius Paulus, wrote during the reign of Severus and Caracalla, Caracalla, Elagabalus and Severus Alexander but this was obviously still the state of affairs under Justinian when the *Digest* was compiled. It was presumably the same throughout the empire since there is little point in charging oneself.

This immunity, however, was apparently lost once the goods were being traded by private individuals, as can be seen in the next sentence of *Dig. XXXIX, 4, 9, 8*:

Mercatores autem, qui de fundis fiscalibus mercari consuerunt, nullam immunitatem soluendi publici vectigalis usurpare possunt.

The emperor's exemption also extended to his son and wife, as can be seen from *Dig. XLIX, 14, 6, 1*:

Quodcumque privilegii fisco competit, hoc idem et Caesaris ratio et Augustae habere solet.

Examples dated by context

Despite the relative quantity of imperial sealings, there are apparently none for which a date has been suggested on the grounds of the archaeological context in which they were found

Conclusions

All imperial sealings would have guaranteed the physical integrity of the contents and would have acted as proof of exemption from custom duties at any collection points which they may have passed.

The many different types of imperial sealing preclude any single description of their exact use but it would appear that, in general, the sealings found in the provinces, and not naming any government agencies, were attached to supplies for the army and are certainly not to be used as proof of the emperor's presence. It may well be that he was present at the head of his army but this is purely coincidental. The main problem is whether or not the supplies thus sealed were only organised for special campaigns or whether they were for everyday use. The Trajanic and Severan sealings suggest that they were for expeditionary use only whereas the Ickham sealings, and possibly those from Izvoarele, would suggest that regular use is possible. Another problem is the almost parallel usage of the putative sealings of the Praetorian Prefect of the Gauls. I have attempted to answer this in the relevant section of chapter 4.

The supplies in question could have consisted of food, clothing or weapons, although food is probably the main, if not the only, candidate. Davies states that the basic peace-time diet consisted of 'corn, bacon, cheese, and probably vegetables to eat and sour wine to drink; the soldier would also have access to salt and olive-oil' (1971, 125 = 1989, 189) Presumably the corn, wine, salt and olive-oil would have been brought in

from elsewhere but we cannot be so sure about the bacon, cheese and vegetables which could have been produced in the *territorium* or *prata* around the camp). Wine and olive-oil can be virtually ruled out as recipients of lead sealings since none have been found in association with amphorae on shipwrecks. If we say that one of the functions of sealings was to prevent petty pilfering then we could probably also rule out bacon and possibly cheese since any theft of a part would be instantly noticeable (although this would depend heavily on the size and shape of portions). This leaves us with corn, salt and vegetables. Salt may have been transported in pitch-sealed ceramic containers (Milne, 1985, 107) whereas corn and vegetables would have been packed in sacks. Any of these could have been sealed with lead and it is only the position of corn as a staple and the quantity in which it was required to feed an army that leads us to prefer this. There are of course many other items of food which were consumed in military camps but we would not expect these luxuries to have been imported under the imperial seal.

Notes

- 1 The Baetican examples cover the period from AD214 to 230 whereas the one dateable Tarraconensis example (*CIL* XV 4137) is from AD235 (dates provided by consuls named in accompanying *tituli picti* on the sherds). There is also an example from Chester found with 3rd century material on the site of a possible *mansio*. The notes for that example tell us that 'this formula is attested for the third century when the south Spanish export trade was taken over by the state. This is usually linked with the presumed confiscation of the estates of adherents of Clodius Albinus in 196. Professor Almeida, however, gives AD117-260 as the extreme date range for the sherd (implying some shipping by imperial agents from the beginning of Hadrian's reign) and, within that period, AD220-26 as the most likely date of the vessel' (*Britannia* xii (1981), 381-2, note 44).
2. Perhaps the Urban Cohort enjoyed a special position in the army hierarchy.
3. This otherwise unpublished funeral inscription from c.2nd C. is apparently in the collection of the Comune di Roma: *D. M. Optati Aug. l. qui pr(ocuravit) ad anabolicum Alex(andriae) item in provincia Cilici(a)*. Turcan presumably takes the word *item* to mean that Optatus was a procurator in Cilicia and not a *procurator ad anabolicum in Cilicia*. If he was the latter then it would spoil Turcan's preferred idea that the *anabolicum* relates only to Egypt.
4. *Vectigal ex Aegypto u(r)bi Romae Aurelianus vitr(e)i, chartae, lini, stupp(a)e atque anabolicas species aeternas constituit*.
5. We must remember that the *species ammonariae* also included large amounts of oil and smaller quantities of wine, fat and fruit (Warmington, 1954, 60).
6. This is an extension of an idea which I have previously expressed elsewhere (Still, 1993, 408).
7. It was Turcan (1987, 18-19) who suggested that these Greek letters represented numbers. However, the fact that these are our only examples and the numbers are so similar raises the possibility in my mind that the omega is the initial letter of an unknown word, with beta as the second letter of this word.
8. If he does mean actual letters does he believe that the sealing acted as a frank or postmark on the box to denote the date of dispatch?
9. There is also a sealing [1019] in the Miscellaneous category (although it may actually be Imperial or Official) which appears to be dated in the Alexandrian system.
10. In the same way that taxes in kind were raised from the Egyptians for Severus' visit in AD199 and for Caracalla's campaign in the east in AD214-5, although even these may have been paid for (Rickman, 1971, 280).

11. In Strabo's time it was the responsibility of the imperial procurators (iii 4, 20). In later periods the task fell to the Praetorian Prefect (Jones, 1964, 371).

12. Lepper and Frere (1988, 84) suggest that Cichorius' casts 86-88/scene xxxv from Trajan's Column shows him disembarking at either Oescus or Novae, although they prefer Oescus.

13. We should bear in mind that the sealings from Moesia Inferior are found in forts and those from Thrace are found in road stations probably for the simple reason that these are the main centres of officialdom in those provinces.

14. The 'Main Route', (on which all of these possible Thracian road stations are placed) identified in the Antonine Itinerary by van Berchem (1937, 117-201), is said to be the planned route for Caracalla's progress to the east in AD214-5 naming places where supplies for the journey were to be collected and stored. Similar preparations must have taken place on every such occasion (Chevallier, 1989, 36-7; Still, 1994, 392).

15. Rickman suggests that some *mansiones* were used as rear supply bases for the frontiers and he seems to include the *comitatenses* in this system (1971, 287-9). He describes these sites as 'great central supply dumps into which officials like the *primipilares* could gather supplies before dividing them between individual forts'. Jones (1964, 627) points out that, since they had no fixed stations, the *comitatenses* were usually given warrants to receive rations from the provincial governor but that the *Codex Theodosianus* (VIII.iv.17.385) says that under Gratian the *comitatenses* in Illyricum received their supplies from storehouses which had been stocked by *primipilares* (i.e. the supplies were brought from another province by the method usually adopted for *limitanei*).

16. There is much conflicting evidence as to the date of any possible military presence in road stations (Chapman, 1978, 173-80). Some authors point to cases where the army was involved from an early date (Chapman, *op.cit.*, 175; Chevallier, 1989, 184) whereas others see the introduction of military units as being a move to protect the *annona militaris* (Pflaum, 1940, 189-240). However, further confusion is caused by the fact that some authors think that the *annona* was set up by Septimius Severus (van Berchem, *op.cit.*, 146ff.) while others believe that it was only put into full operation by Diocletian (Rostovtzeff, 1957, I 484, 517; II 712, n.15; Rickman, *op. cit.*, 278 -83), although it should be noted that these opinions are not mutually exclusive. It may be prudent to say that some, but by no means all, road stations may have had a military presence from an early date.

17. Unlikely if we take our earlier conclusions into account but perhaps we should consider each case separately.

18. HA Severus 14 says that Septimius Severus transferred the running of the *cursus publicus* from the private domain to the imperial treasury, so perhaps from this time

onwards the staff would have been paid (in kind?) by the government. In addition to these civilian staff we should perhaps also include the paramilitary police services such as the *frumentarii* who, from Diocletian onwards, were replaced by the *agentes in rebus*

19. Following on from note 16, the government would presumably have also paid for the fodder for the horses etc.

20. Arzus has 26 imperial, 13 civic and 34 miscellaneous sealings, but this large collection may simply reflect the amount of metal detecting conducted on the site. For another problem with the *emporium* idea see Still, 1995, 355

21. Neither Constantine II nor Julian ever visited Britain so we can immediately reject the ideas of personal baggage and campaigns led by the emperor in person. In fact, we are not aware of any military expeditions to Britain in those reigns, which has led to Frere's suggestion.

OFFICIAL SEALINGS - THE EVIDENCE FOR THEIR USE

Evidence from impression

None of the inscriptions on any of the Official sealings in the catalogue make any reference to the use of those sealings. However, two examples, [0286] and [0287], refer to named officials along with their titles. A further four examples, [0288-0291] (with a possible fifth [0292]), name a single official, the identification of whom I believe I have discovered.

The sealings of provincial officials [0286 - 0287] - Dressel (*CIL* XV 7970) expanded the inscription on [0286] as [..V]OLVSSIVS AEMILIAN[us] [pr]OC(urator) AVG(usti). He also suggested M. VMBRI PRIM(i) PROC(onsulis) AF(ricae) as an expansion for [0287], with a possible candidate (*CIL* XV 7969).¹ Although the abbreviation for proconsul is usually *procos*, the limited space on the sealing could have brought about this unusual abbreviation. If we insist on *proc(urator)* then we have to assume that this man is previously unknown, by no means impossible since the list of known holders of this post is rather short. We do not know where Volussius Aemilianus was posted² but Primus would appear on the evidence of the sealing to have been in Africa. Record [0286] was discovered in the Tiber and [0287] may also have been discovered in Rome. Therefore it would appear that these sealings show the officials sending items into the capital. The discovery of the example in the Tiber (i.e. thrown away at the dockside) suggests that this, at least, was attached to bulky merchandise of some sort which had to be unpacked there as opposed to official documents such as letters or lists of accounts which would only need to have been opened at their final destination. It is difficult to say whether gold or silver representing collected taxes would be unpacked on the wharf for ease of transport or whether they would be taken to the treasury intact. It is possible that the merchandise was grain since the *annona* was

presumably considered to be another form of tax or rent (Garnsey & Saller, 1987, 49-50) and therefore within the domain of the procurator. On the other hand, John Mann, admittedly talking about collection for use within a province, says that there was no corn-tax in the Principate and that any compulsory purchase was conducted by the staff of the governor, not the procurator (1985, 21-22). This last point may explain why, if our other sealing represents the transport of grain from Africa to Rome, it was being sent by a proconsul.

The sealings of Maximinus [0288 - 0292] - The identity of this Maximinus has been quite an enigma for some time. The Chi-Rho on the reverse of all four/five of the sealings immediately tells us that we are not dealing with either of the emperors of this name, both of whom were pagan. The bust on the obverse, around which the name is circumscribed, was thought by Göbl to resemble Magnentius, although I believe that the fact that it is bare-headed has helped this suggestion. Therefore this Maximinus was said to have been a previously unknown high-ranking military officer of Magnentius (1969, 58-9). However, I think it is much more likely that this Maximinus is the anti-hero of Books 28-30 of Ammianus Marcellinus, the Praetorian Prefect of the Gauls from AD371-376 (*PLRE* vol.I, Maximinus 7).³ The bust could easily be Valentinian I but is probably better seen as Maximinus himself depicted in the style of the time.

At the risk of searching for an historical explanation, the campaign of Valentinian I in AD 375 which set out from Trier (seat of the Praetorian Prefect of the Gauls) and then made its headquarters in Carnuntum for three months (the findspot of [0288-0289]) for the preparation of equipment and supplies, would appear to provide an ideal reason for sealings of the Praetorian Prefect of the Gauls being found in Illyricum (Amm. Marc.xxx. 5). The other two/three sealings which were found at unknown locations in Hungary can be interpreted as relating to Valentinian's subsequent moves to Aquincum (with an excursion into the territory of the Quadi at Nógrádverőce), Savaria and Brigetio.

It is not clear whether this campaign is the same event referred to by Ammianus when he says earlier:

quod ad tutelam Illyrici Gallicani militis validum accesserat robur (xxix.6.16)

If not it could present another opportunity for these sealings to have arrived in the area.

Further examples of these sealings, which are not in my catalogue, are said to have been found in Enns (ancient Lauriacum) and Sisak (ancient Siscia) (Deringer, 1965, 220ff; Alföldi, 1931/2, 6ff). Neither of these findspots presents any real problem since military detachments could easily have travelled to these places, bringing with them supplies packaged in Trier.

Jones (1964, 627) says that a fourth century emperor engaged in large-scale operations would be accompanied by his praetorian prefect, or the prefect of the area in which he was campaigning, who would personally arrange the supplies for the army,⁴ although this also seems to be the state of affairs from day to day (*op.cit.*, 371). It is presumably due to the fact that Valentinian had led his army from Trier that Maximinus was given the task of organising supplies. The fact that praetorian prefects were in charge of *fabricae* and were also responsible for the *annonae* at this date is of little help in narrowing down the items sealed. He had to supply the army with everything and, anyway, there is no way of distinguishing whether our sealings were attached to these shields etc. and rations, or some other commodity such as clothing. However, assuming that I have chosen the correct man, the basic suggestion of equipment/supplies for a campaign still stands since there are apparently few other reasons for a *Praefectus Praetorio Galliarum*'s sealings to be found in such relative quantity in someone else's prefecture. Previously Maximinus had held the position of *vicarius urbis* (AD370-1) and *praefectus annonae* (AD368/70). I have been unable to connect these offices with the findspots of the sealings, although Pannonia was in the Italian prefecture. It is

unfortunate that the sealings themselves do not mention the office which he held, although, since we apparently have no other sealings for any holders of these offices, the sealings are unique regardless of whatever position he was in.

The usage of these sealings is virtually the same as that suggested for some imperial sealings in chapter 3. Some of those sealings probably represent everyday provisions for soldiers whereas there is the possibility that others may be connected only with specially-prepared military expeditions. They date from throughout the empire and so we probably have evidence from within the lifespans of several different administrative techniques. However, one group of imperial sealings is dated AD360-363 (or later) and another may be connected with events in either AD369 or possibly 367. Our 'praetorian prefect' sealings apparently date to AD375 whereas we are told by Ammianus Marcellinus (xiv.10.3-4) that even back in AD354 the troops were blaming the Praetorian Prefect, Vulcacius Rufinus, for the delay in the arrival of their supplies. Therefore we cannot say that the difference is simply one of date and a change in administration. One possibility is that the responsibility for military supplies in the fourth century, and perhaps even prior to Diocletian (Jones, 1964, 371), was in the hands of the Praetorian Prefect but that he ostensibly exerted his authority on behalf of the emperor, using imperial sealings. Maximinus, however, may have produced sealings of his own for this purpose.⁵ I hesitate to mention it, but perhaps this confidence is a foretaste of the 'insufferable arrogance/overbearing conduct' for which Ammianus tells us Maximinus was eventually executed by Gratian (xxviii.1.57).

Anepigraphic sealings

Three anepigraphic sealings [0283-0285] in the Official category all bear a similar impression. This shows a man on horseback, holding a spear, riding right on a pearl groundline. This general design is said to bear a strong resemblance to coin reverses of Constantius II, as noted for [0283] by Mattingly (Bushe-Fox, 1949, 138, no.164). However, [0283] from Richborough is slightly different to the others. Therefore we

have [0284] (together with an identical uncatalogued example - Mills, 1995, 74, pl M215) from Britain and the also identical [0285] from Trier. This distribution is not surprising in view of the fact that Trier was the seat of the Gallic prefecture of which Britain was one of the constituent dioceses. The design provides no real clue as to the origin of the sealings, although it is possible that the matrix had been cut, and was being used, in the mint city of Trier itself. Perhaps even more likely is that several similar matrices were cut in Trier and then distributed to the various agencies for whom they were made, including those in Britain.

Another three anepigraphic sealings show soldiers holding standards. Again, these are presumably linked to coin reverses of the 4th C. One example from Trier [0285A] shows two men holding a standard between them, while [0287A] from Moesia Inferior and [0292A] from Pannonia bear similar designs of four men holding spears and standards.

Evidence from form and reverse

There is little information to be gained from the physical characteristics of the sealings in this category. Records [0288-0292] are all two-sided so there is the possibility that they hung loose from threads, although this does not mean that they were not able to secure whatever they were attached to. The rest are all one-sided although we have information on the shape of the reverse of only two examples, [0284], which displays a shallow swelling, typical of many one-sided sealings and [0287A] which has a shallow swelling but with a central nipple. There are no known impressions of fabric or wood grain on any of the examples.

Evidence from written sources

If it seems unlikely that all sacks of grain belonging to the *ammonia* were sealed with the sealing of the *Procurator Augusti* or even the governor (see above), there is an interesting text from Egypt dated to 2BC which sheds some light on the care of the grain during its journey down the Nile to Alexandria (*JJP* iv, 1950, 106-15; given in Lewis & Reinhold, 1966, 141-2) and which may give us some clues:

From the Oxyrhynchite nome

Ammonius son of Ammonius, pilot of a government boat with the emblem... attached to him as escort being Lucius Oclatius, soldier of Legion XXII, second cohort, century of Maximus Stoltius; and Hermias son of Petalus, pilot of a second boat with the emblem *Egypt*, attached to him as escort being Lucius Castrius, soldier of Legion XXII, fourth cohort, century of Titus Pompeius. This is a sample of the cargo we have loaded from the harvest of the 28th year of Augustus - Ammonius, 433¼ artabs of wheat, loaded to the rail, Hermias, likewise 433¼ artabs of wheat - a total of 866½ artabs of wheat consigned by Leonidas and Apollonius, *sitologoi* of the Lower Toparchy, Eastern Division, plus the supplement of one half artab of wheat per hundred. We loaded from the 2nd of Hathyr to the 4th of the same month, and we have sealed [this jar] with both our seals, Ammonius' with a figure of Ammon, Hermias' with a figure of Harpocrates. Year 29 of Augustus, Hathyr 4.

This text was written on a jar containing a sealed sample of the grain loaded on to both boats. The seals in this case were presumably impressed in some sort of mortar which had been spread over a bung in the neck of the jar.⁶ On arrival at Alexandria the jar would be opened and the 'control sample' would be compared with the grain on the boats to ensure that the cargo had not been spoiled during the journey. It is not impossible that there was a similar arrangement for the journey to Rome (Lewis & Reinhold, *ibid.*), with the procurator giving his guarantee of a sealed sample using lead sealings in some way. Although Egypt is often a special case and we cannot be sure that these rigorous precautions were observed anywhere outside of that province, the words of Seneca (Brev. vit. xix, 1) suggest that great care was indeed taken of this lifeblood for Rome:

Simile tu putas esse, utrum cures ut incorruptum et a fraude advehentium et a negligentia frumentum transfundatur in horrea, ne concepto umore vitietur et concalescat, ut ad mensuram pondusques respondeat.

Conclusions

Apart from the special use of the suggested sealings of the *Praefectus Praetorio Galliarum*, there is very little information to be gleaned from these few sealings. This paucity precludes any attempt to see a pattern in their use or, with the exception of the Pannonian sealings, their place of discovery. Although the sealings cannot tell us, it is likely that, due to their official nature, they usually indicated exemption from customs duty, in addition to any guarantee of physical integrity of the contents.

Notes

1. As Dressel suggested, our man is probably Umbrius Primus (*PIR*^I V 596) who is listed as being proconsul of an unknown province in the time of Papinianus (i.e. in the Severan period). He died in office and is believed to be different from M. Nummius Umbrius Primus Senecio Albinus (*PIR*^I II 189), consul in AD206. We have a detailed *cursus honorum* for the latter and there does not appear to be any connection with the man of our sealing. We also know of M. Umbrius Primus (*PIRE* I, Umbrius Primus 4) who was consul suffect in AD289. We have no further information on this last man.
2. The only information relating to Volussius Aemilianus in *PIR*^I is taken from this sealing!
3. Maximinus is depicted by Ammianus as an evil, manipulating schemer. Before achieving high office he is described as 'tamquam subterraneus serpens per humiliora reptando' (xxviii.1.7) and then on being allowed to preside over a court case as *praefectus annonae* he behaved 'ut saepe faciunt amphitheatrales ferae, diffractis tandem solutae posticis'. He was himself a Pannonian and the invasion of the Quadi and Sarmatians which was being repulsed had actually been caused by the underhand tactics of his son, Marcellianus, who had been created *dux* of the Pannonian province of Valeria at his father's suggestion (Amm. Marc. xxix.6.3f). Maximinus' brother-in-law, Valentinus, had been exiled to Britain and was executed for subversion there (Amm. Marc. xxviii.3.3ff). Ammianus tells us that he will, in due course, give the details of the death of Maximinus who was executed during the reign of Gratian (xxviii.1.57). However, as John Matthews points out (1989, 211), this is one of the two unfulfilled promises in Ammianus' work.
4. The responsibility in earlier periods appears to have ostensibly been that of the emperor himself (see chapter 3).
5. Roger Tomlin (*pers. comm.*) says '...for such a senior official to usurp a quasi-imperial prerogative, the striking of 'coins', seems to me perilously close to *maiestas*.' This argument appears to centre on the presence of the portrait of Maximinus rather than the actual sealing since purely epigraphic examples naming other officials are known, as seen above. The problem would surely lie with the fact that Maximinus was advertising himself as the person who was providing for the army. However, perhaps Tomlin is broadly correct. If the practice was soon stopped then it could explain why these sealings are the only examples known for any Praetorian Prefect.
6. This method was used for sealing amphorae. The space above the cork bung was filled in with an *operculum* of mortar or pozzolana which was sometimes stamped (Peacock & Williams, 1986, 11-12, fig 4; 50).

TAXATION SEALINGS - THE EVIDENCE FOR THEIR USE

Evidence from impression

Sealings bearing the inscription STAREL INP [0293; 0295-0301] - These sealings, mostly from Lyon but with one example from a similar waterfront context in London, have been interpreted as belonging to the *Statio Arelatensis*, the customs station at Arles (Dissard, 1905, 14; Grenier, 1934, 654). No attempt has ever been made at expanding the abbreviation INP on these sealings.¹ There are many possible expansions but I have narrowed down my suggestions to the following:

ST(ationis) AREL(atensis) INP(ressio) - the stamp of the Arles *statio*.

ST(atione) AREL(atensis) INP(ressatus) - having been stamped by the Arles *statio*.

ST(atione) AREL(atensis) INP(ositus) - put on by the Arles *statio*.

ST(atio) AREL(atensis) IN P(ortu) - the Arles *statio* in the docks (perhaps as opposed to any others on the land routes into the city?).

The first two are probably closest to the truth. The last suggestion is interesting since it would not require the change from *imprimo* to *inprimo*, or *impono* to *inpono*, (not that this is a serious obstacle in itself) and could also make more sense of the one example [0301] on which the inscription may read STARELIP, which would otherwise be explained as an error on the part of the die-cutter (or an error in Dissard's reading). However, although the 'N' is strictly unnecessary, perhaps the abbreviation of 'IN' to 'I' would be unusual.

Grenier (*loc.cit.*) saw these sealings as denoting that the *quadragesima Galliarum* had been paid on the goods at Arles and that they were then able to circulate within Gaul with exemption from any further payment, especially at the central *statio* at

Lyon. De Laet followed this and suggested that one of the duties of the internal customs stations would have been to check that the payment had been made (1949, 168-70).

The comparatively recent discovery of an example from London [0293], while providing information on the minimum distance travelled and possible routes taken, does not shed any light on the functioning of the *quadragesima Galliarum*.²

Sealing possibly referring to a tax farmer of Cyrenaica [0294] - This sealing bears the inscription MI[.]ΩTH together with a bust of Zeus Ammon. Turcan suggests that it could refer to a tax collected by a tax farmer (μισθωτης) although this is far from certain (1987, 31). The bust has led him to suggest that the area of origin was Cyrenaica where the oracle of that god was situated. The bust of Zeus Ammon, however, also appears on coins of Cassandreia in Macedonia, although the fact that this was a colony whose coin legends were in Latin may possibly make Cyrenaica the more likely choice.

Sealing referring to the *statio ferraria* at Ostia [0302] - Garrucci (1862, 418) suggested STAT(ionis) FERR(ariae) FOR(iculorum) OS[t](iensium) while Rostovtzeff (1900, 10) preferred STAT(ionis) FERR(ariarum) FOR(i)? OST(iensis). Little is known of the work of the *statio ferraria* although Meiggs believes that the 'passage of iron may ... have been under direct imperial control' (1960, 302), citing T. Petronius Priscus who was *procurator Aug(usti) ferrariarum et annonae Ostis* (CIL XIV, Suppl. 4459). The fact that this sealing was found in Ostia is not as strange as it seems since the goods/raw materials, after being sealed on arrival at Ostia to denote payment of duty, could easily have been used in the town rather than being transported further afield.

Sealing possibly referring to *quattuor publica Africae* [0305] - Rostovtzeff (1900, 11) suggested (quattuor) P(ublicorum) A(fricae) AVG(usti) N(ostri) B []. He believed that the *quattuor publica Africae* were four areas of *portorium* collection in Africa (1904, 402). Others have preferred to see them as four different forms of taxation (Thibault,

1888, 44; Guérin, 1900, *passim*) Exactly what these were is uncertain, although de Laet suggested *portorium*, *vicesima libertatis*, *quinta et vicesima venalium mancipiorum* and *vicesima hereditatum* (1949, 247-54).

There are two further sealings which Rostovtzeff thought referred to the *quattuor publica Africae* (1900, *loc. cit.*) but which I have entered as Imperial on account of their uncertain inscriptions ([0113]; [0118]).

Evidence from form and reverse

None of the sealings connected with the payment of taxes are double-sided and none bear the impression of fabric on their reverses. Two examples, [0294] and [0301], do however have the impression of wood grain on their otherwise blank reverses.

The absence of double-sided sealings may show that these sealings were used to physically seal the goods to which they were attached, thus ensuring that no untaxed items could be added later to the packages.

Evidence from association with findspot

The sealings of the Arles *statio* found in Lyon [0295 - 0301], like the other sealings from this site, were probably discovered in the Saône, presumably having been removed from packages as they were unloaded from boats and opened on the quayside. The sealings would appear to have been attached to the goods at Arles, near the mouth of the Rhône. This was probably at the time that the goods were transferred from sea-going ships to river craft (King, 1990, 115) although the application of sealings would suggest that unloading on to the quayside (as opposed to ship to ship transfer)

was necessary. This is because the sealings were formed from molten lead as they were applied, not pre-moulded, and this would be a rather difficult task on board a ship.

Evidence from written sources

There does not appear to be any written evidence directly connected with the use of lead sealings for tax collection.

Examples dated by context

There are no examples dated by the archaeological context in which they were found.

Conclusions

The evidence provided by these sealings is very slight. They certainly tell us little concerning the organisation and operation of these agencies. The apparent paucity of sealings in this category (which after all is considered by many to be one of the main uses of sealings) may partially be explained by the numbers of Civic sealings which possibly fulfilled a similar function. It has also been suggested that Imperial/Official sealings were also used for this purpose (Cüppers, 1974, 172; Dembski, 1975, 53), although I do not support this idea fully. As noted above, it is interesting that there are no double-sided examples since this may suggest that securing of packages was the purpose, to ensure that no extra goods were added following the payment of dues.

Notes

1. Dissard (1905, 14) merely gave 'in p.....?' whereas Frere (*RIB* 2411.39) offered 'inp(...) or in p(...)'.
2. Frere (*loc.cit.*) points out that 'several types of import, including olives, dates and certain kinds of wine came from sources round the Mediterranean beyond Gaul'.

PROVINCIAL SEALINGS - THE EVIDENCE FOR THEIR USE

Evidence from impression

Sealings of this category provide little information in their inscriptions other than the name of the province.

Some of the inscriptions actually use the word 'province', either as PROV or just the initial P. These are [0306-0310], [0312-0315], [0320-0321] and [0323].

The other inscriptions just give the name of the province, although it is debatable as to whether some of these refer to an actual province or not. The Latin inscription on [0316] may refer to the province of Pamphylia after its separation from Lycia in the fourth century but sealings [0317-0319] offer us the ethnic of the name in Greek. This reference to the people of the area suggests that we are not dealing with a Roman province but with the *κοινον*. This need not necessarily precede the Roman period since *κοινά* continued under the empire, and indeed, where they had not already existed, may even have been created.

Another sealing [0311] bears a legend which names the province and adds a qualifying adjective, *Brita(mia) Sanc(ta)*.

Sealing inscribed PROV / PONTI [0320] - This sealing helps to date itself by virtue of its inscription. The only point at which there was a province called simply 'Pontus' (i.e. without mention of Bithynia or some identifying adjective associated with the name) was the period between the AD230s and the beginning of the fourth century (Mitchell, 1993, 158-9). Thus, assuming that this is not just an abbreviated reference to one of the other

provinces referred to above, we can date the probable period of use of this sealing to within c.80 years.

Sealing inscribed PROV / AEGVPT / IOVIAE [0321] - Like the previous example, this sealing also helps to date itself by virtue of its inscription. The period of use of this sealing can be narrowed down even further since the province of Aegyptus Iovia existed only from AD314/5 until 325.

Evidence from form and reverse

The majority of these sealings are one-sided with a swelling on the reverse.

Four of the sealings in this category are double-sided, [0312], [0314-0315] and [0323]. The presence of an impression on each side suggests that these sealings were intended to be viewed from both sides and therefore may have been suspended loosely from a thread. However, this does not preclude the use of this type of sealing as a security device (e.g. the thread could have secured a lock or something similar). All four of these sealings bear similar designs, probably referring to P(rovincia) M(axima) C(aesariensis).

Only one example, [0321], bears the impression of fabric on the reverse, while none show signs of wood grain.

Evidence from association with findspot

Sealings of Britannia Inferior and Britannia Superior [0306 - 0310; 0313] - These two groups of sealings are inscribed PBI and PBS with the image of a bull and a stag respectively (see chapter 13 on iconography for more information). It is interesting to

note that, with one exception, they are always found inside their issuing province. Only [0310], a PBI sealing, was found in a different province, Britannia Superior. Although it may seem obvious, these findspots can at least tell us that the identification of the province was not placed on the sealing because the item sealed was destined to leave the province but just to represent the authority by which the item had been sealed.

Sealings of Maxima Caesariensis found in Trier [0314 - 0315] - These sealings, marked PMC with a central Chi-Rho, are thought to refer to the 4th century province which was presumably centred on London. A similar sealing [0312] was found in Silchester and the provenance of another [0323] is unknown.¹ The examples from Trier, if interpreted correctly, are a further indication of the links between Britain and Germany in the 4th century which I have also noted in chapter 4 ('Official sealings - the evidence for their use'). These sealings may have been used for sending supplies (or documents?) to the capital of the Gallic prefecture.

Sealing of Britannia Superior from Combe Down [0309] - This sealing was found in the area of a building thought to be under procuratorial control.² Jones and Mattingly (1990, 217) suggest that the building may have been connected with stone quarrying and point out that 'the use of lead seals attached to blocks and columns is paralleled at Rome'.³ The sealings from blocks of marble found at Rome, however, tend to be somewhat larger than our normal type of lead sealing, as can be seen from Appendix I in the Catalogue.

Sealings of Pontus and Aegyptus Iovia from Thrace [0320; 0321] - These sealings, mentioned above under 'Evidence from impression', provide us with dated sealings which can be related to individual sites.

The Pontus sealing (probably dating from between AD230 and the early fourth century) found at Cabyle may have been found in the city or perhaps, considering the possible official nature of the sealing, in the associated auxiliary fort. For suggested

reasons for the presence of sealings from Asia Minor in the Balkans see the section 'Evidence from association with findspot' in chapter 7 ('Civic sealings - the Evidence for their Use').

The presence in Dimitrovgrad of the sealing from Egypt (dating from AD314/5-325) would appear to suggest official involvement in such long-distance transportation.⁴ This is rather interesting, whether the site turns out to be the *mansio* of Carassura or the *emporium* set up by Septimius Severus at Pizus

Evidence from written sources

There are apparently no written sources which have any bearing on the use of provincial sealings. However, perhaps we should look at the evidence for travel warrants which gave permission to use the *cursus publicus*. These were apparently in the gift of the provincial governor and so, if sealed, may have been provided with provincial lead sealings. Chapman has extrapolated from Trajan's reply to Pliny (*Ep.* X. 46) that these were 'official blanks counterstamped by the emperor in Rome and sent out in batches to provincial governors for their use' (1978, 59). This is probably correct although it is debatable whether the source can actually support it. Chapman later says that the tablets were probably stamped or branded with the emperor's name (*op.cit.* 60) but perhaps I should suggest the possibility that imperial sealings were used. Unfortunately there are no detailed descriptions of these postal warrants and so we are unable to progress beyond the basic suggestion of some type of lead sealing being used, to denote validation either by the emperor or by the provincial governor.

Examples dated by context

None of the provincial sealings are from securely dated archaeological contexts, but see ‘Evidence from impressions’ above for two dated examples.

Additional example

It should be noted that a sealing entered in the Miscellaneous category has been recognised at a late stage as being Provincial [1691]. It has therefore been impossible to include it in its rightful place in the calculations in chapter 12 (‘Categories of sealings found in the provinces’) or to renumber the illustration. The sealing in question is inscribed ΠΑΛ / ΗΠΕΙ / ΡΟC which is an abbreviated form of Παλαιος Ηπειρος. This refers to the fourth century province known in Latin as Epirus Vetus which was in the diocese of Moesia (later in Macedonia). The sealing was found on an unknown site in Pannonia.

Conclusions

With regard to the sealings which have PROV or P in the inscription, the very fact that the word ‘province’ has been referred to suggests that these sealings were produced officially and therefore were presumably issued, for whatever purpose, on behalf of the governor and his *officia*.

Notes

1. Since we have no indication of where this sealing was discovered, it may refer to P(rovincia) M(auretania) C(aesariensis) in Africa, rather than Maxima Caesariensis. In fact, the abbreviation PMC usually refers to the African province (*ILS* 781)
2. *RIB* 179 from the site refers to a freedman who was an assistant of the procurator.
3. Jones & Mattingly actually refer to 'a large number of lead seals' having been found on the site, although they do not give a reference for this and I have been unable to locate any further information. If there are any other sealings from the site then they are probably anepigraphic since *EE* IV (1881), 209, no.707 does not mention them in connection with the Britannia Superior example.
4. Unless, of course, it sealed expensive exotic goods from further afield which would have covered the otherwise prohibitive transport costs.

CIVIC SEALINGS - THE EVIDENCE FOR THEIR USE

Evidence from impression

There is very little information as to actual use in any of the impressions on Civic sealings. All of the examples which I have collected are epigraphic since the presence of the name of a city is the criterion for identifying examples in this category. It is almost certainly true that some of the anepigraphic sealings in the Miscellaneous category, especially those showing figures from mythology, are actually Civic and bear the image of the tutelary deity of the city. For those sealings that we have here, however, the most important piece of information to be included by the engraver was considered to be the origin (or issuing authority?) of the sealing. Therefore, the only possible way in which we can attempt to use these sealings is to examine the stated place of origin, and then try to suggest a reason for that city to be using sealings. However this can be highly subjective. The form of reference to the city may also be of some interest, since some sealings use the city name in the nominative whereas others use the genitive plural of the ethnic. Various abbreviations of these two most often used forms of reference render the case and type of noun found on many inscriptions uncertain.

The following sealings definitely bear the city name in the nominative:

[0328] (Ephesus); [0330] (Rusicade); [0348-0349] (Hypaepa); [0357] (Metropolis); [0364] (Rusicade); [0376] (Cyme); [0387] (Hypaepa); [0388] (Cyme); [0389] (Rusicade).

The following are best seen as the city name in the nominative, although an abbreviated form of the ethnic is possible:

[0325] (Smyrna); [0331] (Smyrna); [0339-0347] (Smyrna); [0354] (Coloe); [0358-0360] (Smyrna); [0380-0385](Smyrna).

The following sealings definitely bear the genitive plural of the city's ethnic: [0333-0336] (Ephesus); [0337] (Laodicea ad Lycum), [0338] (Magnesia ad Maeandrum); [0350] (Hypaepa); [0351] (Magnesia ad Maeandrum); [0353] (Ephesus); [0355-0356] (Coloe); [0368] (?Tyre); [0369-0372] (Ephesus); [0374-0375] (Ephesus); [0379] (Philippopolis).

The following examples could be either name or ethnic, the case of either of which is unknown. This uncertainty is for various reasons including abbreviation: [0329] (Tavium), [0352] (?Tyre); [0361] (?Adramyttium); [0362] (?Antandrus); [0365] (?Savaria); [0366] (Pictavium); [0373] (unknown city in Galatia); [0377-0378] (Pergamum); [0386] (Apollonia Mordiaum).

Some inscriptions furnish their city with a title. The examples of this are [0324] which apparently refers to R(es) P(ublica) G(levensium) [.] A(...), [0326] which may bear the inscription C(ivitas) COR(i)EL(tauvorum), [0332] which has ΤΥΠΙΩΝ ΜΗ[τρ](οπολις) and [0367] with COL(onia) BER(ytus/ytensis). Of course, any of these expanded titles could equally be in the genitive.

There are three related sealings, [0329], [0373] and [0386], which bear the name of the province, Galatia, in addition to the name of the cities.

Another example, [0365], appears to bear the legend FORTVNA [S]AB[a](ria), although the expansion is rather doubtful and the sealing may not even be Civic.

Evidence from form and reverse

The majority of the sealings in this category are single-sided with the usual swelling, of varying shape, on the reverse.

Three are double-sided, [0326], [0365] and [0369], which means that they probably hung loose on a cord, although they could still have performed the function of actually securing the item to which they were attached.

Two sealings from this category, [0368] and [0380], show evidence of the impression of fabric on their reverses, while another two bear the imprint of wood grain, [0324] and [0332]

It is of great interest that one example, [0332], still bore fragments of its binding thread, described as purple silk thread, in its thread-hole when seen by Paul Dissard. These have since disappeared but Dissard's notes are referred to by Turcan (1987, 29, no.28).

Evidence from association with findspot

Sealing of Smyrna found at Ickham [0325] - This sealing has already been the subject of an article which examines closely its links with its findspot (Still, 1995, 347-56). I only mention it here to highlight the distance which these sealings can travel.

Sealing of Tavium found in Trier and sealing of Apollonia in Galatia found in Thrace, [0329] and [0386] respectively - The sealing from Tavium in Galatia is marked TAO[.]I / ΓΑΛΑ and was found near the Mosel in Trier. Like the Smyrna example above [0325], it demonstrates the distance over which some sealings are known to have travelled.¹ In his publication of this sealing, Binsfeld suggested that it had secured a package of scarlet dye or scarlet-dyed wool, the local speciality (1988, 14 & 16). However, in an article currently in preparation, I have pointed out that there is a previously unpublished sealing from another Galatian city which is stylistically very closely linked [0386]. I believe that this sealing, marked ΑΠΟΛ / ΓΑΛΑ, must have come from Apollonia Mordiaum. This city was inside Galatia until the reign of

Diocletian and is the only likely candidate. The article examines several possible reasons for why the matrices, almost certainly engraved by the same person or workshop, should have referred to cities so far apart (c.400km as the crow flies or c.550km by road).² The favoured answer is that the issuing and use of the original matrices were probably controlled by some form of central administration, presumably the provincial governor and his *officia*.³ The idea that the sealings were used to mark local produce with labels of origin can probably be set aside now, since it is difficult to see why any organisation at a provincial level would have been interested in arranging this, purely for the glory of the cities.

Sealings from cities in Asia Minor found in Moesia Inferior and Thrace: Apollonia Mordiaecum [0386]; Coloe [0354 - 0356]; Cyme [0376]; Ephesus [0333 - 0336; 0353; 0369 - 0372; 0374 - 0375]; Hypaepa [0348 - 0350; 0387]; Laodicea (?ad Lycum) [0337]; Magnesia ad Maeandrum [0338; 0351]; Metropolis [0357]; Pergamum [0377 -0378]; Smyrna [0339 - 0347; 0358 - 0360; 0380 - 0385] - The proximity of Asia Minor to the Balkans is certainly a major reason for the location of these sealings but can they tell us any more? The main theme of past research conducted on the movement of goods between Anatolia and the Balkans has been that Anatolia gave more than it received, with the provisioning of the Danubian garrisons being the main reason for this (Gren, 1941, *passim*). Mitchell, however, has added to this that the supply of the Balkan army must have been organised by the state (1993, 251). This is because the task was too important to leave at the mercy of private enterprise and also since the cost of land transport for this quantity of grain would have been prohibitive to private merchants (Mitchell, 1983, 139; 1993, *loc. cit.*). This, however, does not help us since military supplies would surely have been exempt from import duties throughout the period of the empire⁴ and yet it seems likely that these Civic sealings were attached to denote the payment of dues. Perhaps they were fixed to items which were taking advantage of the supply-trains, in the same way that La Graufesenque samian ware was possibly transported from the kiln-sites as part of the system of pack-animals which carried silver from the mines of La Rabasse.⁵

Evidence from written sources

Boon (1991, 318) sees the sealings from Smyrna (and presumably those from Ephesus) as being connected with Julian's restoration of revenues to certain cities (Amm. Marc. xxv. 4.15). This would certainly fit in with the general date (i.e. mid- to late fourth century) assumed for these examples. The reason for the similarity of the dies could lie in the fact, implied in Ammianus' reference to Julian, that the organisation of new civic dues was subject to the permission of the emperor (de Laet, 1949, 461-2 citing *Dig. XXXIX, 4, 10* and *Cod. Just. IV, 62, 1-3*). For this late period, it was the *comes sacrarum largitionum* who took care of the details following the approval of the emperor (de Laet, *op. cit.*, 462 citing *CIJL III, 7152*).

Boon's other suggestion (*loc. cit.*) is that the Smyrna sealings reveal the presence of a branch of the imperial customs-system for Asia (*Quadragesima portuum Asiae*) which was based at Ephesus. This could also explain the similarity of the design of the matrices being used. If Smyrna, and other cities in Asia, were acting as subsidiary collection-centres then it is highly likely that the matrices for this would also have been supplied by the central administration at Ephesus.⁶ The drawback, however, is that we do not have any examples which are from ostensibly earlier periods.

Unfortunately, the first century AD customs law discovered in Ephesus dates from a much earlier period than our sealings which are apparently fourth century (Engelmann & Knibbe, 1989, *passim*). It is a similar story for the late first or early second century inscription from Smyrna which referred to the collection of dues for the crossing of the Hermus (*JGRRP IV, 1427*).

Examples dated by context

Unfortunately, there are no examples which can be dated by the archaeological context in which they were found.

Conclusions

While the general tone of this chapter has been to view these sealings as being normally connected with the collection of customs dues, it is by no means impossible that some were used as labels to advertise the place of origin, perhaps guaranteeing quality. This is, however, very difficult to prove, whereas disproving it for some sealings is considerably easier, as shown above in the section on Galatian sealings

Notes

- 1 The goods themselves may, of course, have travelled much further, only receiving the sealing as they passed through Tavium.
2. The presence of a similar, damaged, sealing [0373] from an apparently different but unidentified Galatian city only serves to confirm the province-wide basis of these sealings.
3. In later times this would apparently have been organised by the *comes sacrarum largitionum* (de Laet, 1949, 462 citing *CIL* III, 7152). Despite the official involvement, the revenue collected on goods entering these cities was actually destined for the cities' coffers.
4. *Dig.* XXXIX, 4, 9, 7 tells us this (see chapter 8 entitled 'Military Sealings - the Evidence for their Use').
5. Middleton (1980, 190) says that 'Given the scale of the workings and the mineral veins exploited, an official and not improbably military interest is certain ... It would have been a simple matter to tack on to this existing transport facility the mule-transport system from La Graufesenque.' He does not make it clear why a private mule train would require the presence of an official one, unless of course the private traders simply took advantage of the well-maintained road.
6. This sounds rather similar to the state of affairs suggested for earlier in the empire in Galatia - cf. note 3 above.

MILITARY SEALINGS - THE EVIDENCE FOR THEIR USE

This chapter will cover all types of military sealings but will of course make reference to the individual categories, where applicable.

Evidence from impression

Sealings bearing evidence of rank of supervising officer [Legionary: 0406; 0409; 0410 - 0411; 0414 - 0415. Alae: 0444 - 0450; 0453. Cohorts: 0464; 0473; 0477 - 0479; 0483 - 0486; 0490; 0495; 0509; 0515] - Many military sealings bear letters which are presumably the initials of the officer's *tria nomina*, but not all refer to his actual rank. All of the legionary and auxiliary cohort sealings mentioned above bear the symbol '7' or a variant of this. Most of the sealings of *alae* have the initial D after the initials of the man's name, although see below for the two exceptions to this.

Tomlin has provided important notes on the meaning of the centurial symbol '7' on the legionary and cohort sealings (*Britannia* xxii (1991), 298, note 22). He says that since the examples with initials alone must refer to centurions and not centuries, this therefore shows that the symbol should be read as 'centurion' not 'century'. Tomlin is probably correct but he does seem to be placing a lot of faith in the intelligence and comprehension of the die-cutters. There seems little difference to me between the implicit understanding involved in '(the seal) of Aelius Cominus, centurion' and '(the seal of the century)' of Aelius Cominus, to use Tomlin's examples. I believe that his reference to documentary evidence which reveals that '7' placed before the name means 'century', but when placed after means 'centurion' provides better proof of his theory, although even this accepted use is still open to the blundering of the die-cutters (*RMR*, *passim*; *Tab. Vindol.* 3.A8 & 10; B2 & 13). Tomlin also points out that only our [0464] and [0414 - 0415] indicate that the centurion's name is in the genitive.

There has been little discussion as to the use of the letter D for decurion, although we can probably assume that it too was intended to be in the genitive. In one case the letter appears before the initials [0446] but we should obviously not extrapolate from the centurion theory since the decurion was in command of a *turma* not a *decuria*.¹ Another example, probably from the *Ala Sabiniana* not *Sebosiana* as it has previously been published, has the abbreviation DEC following the name VAL [0444]. This has been taken as *decurio* (or perhaps more correctly *decurionis*) but could quite possibly be the cognomen *Dec(-imus or imi)* without any indication of rank. On the other hand, when an individual decurion is being referred to on stone or in papyri, the initial D seems never to be used, the most abbreviated form apparently being DEC, usually placed after the name.

It may seem obvious but the presence of the letter D on these sealings appears to indicate that the matrix was used by the decurion himself, since a general reference to the *turma* would surely have involved the use of the much more common formula 'turma of so-and-so' which appears in inscriptions on *instrumenta domestica* and in papyri (but only once in Britain on stone - *RIB* 1445). This is variously abbreviated as T on *instrumenta* and T or, less regularly, T^u on papyri. The absence of T and the presence of D on these sealings of *alae* may therefore be seen to support Tomlin's theory of reference to centurions rather than centuries on the sealings of auxiliary cohorts.

It should be noted that the initials on the reverses of many sealings belonging to *cohortes equitatae* end in D [0476; 0483 - 0484 (6 ex.); 0487 - 0488 (6 examples); 0491 - 0496 (33 ex.); 0498 - 0499 (10 ex.); 0504; 0513 - 0514, 0517].² It would seem likely that on many of these occasions the D stands for *decurio* and that the work was being carried out by members of one of the *turmae* belonging to the unit. We should however be aware of the fact that some may just give a name without rank since some inscriptions on the reverses of sealings belonging to *cohortes peditatae* also end in D. Thus we cannot use the presence of D as a final letter to tell us whether a little-known unit was *equitata* or not, eg. [0506].

Some sealings bear the impressions of intaglios on their reverses instead of initials [Legionary: 0395; 0416; 0418; 0438. *Alae*: 0451. Cohorts: 0459 - 0461; 0503, 0508 - 0509. *Pedites Singulares Consularis*: 0530]. Unfortunately this can tell us little since any soldier may have owned such a ring, not just an officer. By analogy with the matrices naming centurions and decurions, however, we may be able to say that these intaglios belong to men of the same rank. The reasons for the use of such intaglios are examined in chapter 2 ('Typology of Lead Sealings') under Type no.1.

It comes as no surprise that centurions and decurions are named on these sealings since they were in charge of one of the main administrative divisions within the army. Working parties were usually under their control³ and the century or *turma* (identified by the name of the centurion or decurion, i.e. the century/*turma* of so-and-so) was often used in inscriptions to indicate ownership of items, with or without the added name of a soldier.⁴

Sealings bearing the inscription METALLA [0465] - The only military sealings which may give us any more information than unit or personal name/rank are a small group of five examples belonging to *cohors II Nerviorum* [0465]. The reverse is marked with a heavily ligatured inscription which may read *metal(la)* or *metal(lum)*. This has been interpreted as referring to lead mines (or their product) which were near the unit's 3rd century base of Whitley Castle (Richmond, 1936, 109).⁵ It is rather strange that this inscription appears in the place where most other sealings apparently bear only names and ranks but it appears to have been read correctly. It may even be that some of the initials on other sealings provide us with more information than has previously been thought, e.g. four sealings of *cohors VI Raetorum* which have the inscription CAD on their reverses [0472], nine examples belonging to *cohors VII Thracum* marked MV / CAD [0494; 0498; 0517] with another possible example CAD / MV [0772] (but see note 2). Due to the presence of zinc in the general area in which these sealings probably originated, there is a possibility that this could refer to one of its ores, *cadmia*, although there is no proof that it was ever mined in Roman Britain.⁶ It should be noted, however,

that if this is correct then it is even more specific than the above reference to metal or mines.

Sealings bearing the inscription EXP [0391; ?0392; ?0400 - ?0401; 0403; 0425; 0427 - 0428; 0443; ?0524 - 0526] - Thirteen of the sealings belonging to *legio II Augusta* [0391 (7 examples); ?392 (4 examples); ?0400 - ?0401) and one of *legio VI* [0403] have the inscription EXP (or a blundered version) on their reverse which is usually translated as *exp(edivit)* - (Legion ??) dispatched (this).⁷ However, EXP is also the sole legend on 9 examples from Lyon [0425; 0427 (7 examples); 0428] and 1 from Syria [0443]. Turcan has interpreted this on [0425] as *exp(editio)*. He asserts that his example would have been attached to packages destined for the army while on campaign. He even suggests that parcels associated with these sealings found at Lyon contained food intended for the army of Septimius Severus on its way to Britain in 208. It is just possible that EXP on these single-sided sealings⁸ may stand for something other than *exp(edivit)* since there is no subject for the verb, however, one would expect similar sealings to be found in Britain where instead we find imperial sealings relating to the same campaign [0021 - 0022].⁹ If Turcan is correct, could the EXP sealings from Lyon represent supplies packaged by the military units themselves using surplus food already in the granaries of their bases as opposed to the imperial sealings in Britain being brand new supplies straight from the fields?

Can Turcan's translation be used for the British EXP examples? They were all found at Brough under Stainmore which seems to have been a centre for repackaging and redirecting goods. It is usually thought that the goods are being sent from further north and are travelling south (Richmond, 1936, 108) and if we stick to this then *expedit* must be favoured. These particular examples, however, may have been attached to packages sent north to a vexillation on campaign in the area of the wall (or even further north if these too date to Severus' expedition) in which case either meaning would be possible. They may even indicate that they were being sent *by* a vexillation on

campaign. It cannot be explained exactly why they were unpacked here at Brough but then this is a question which applies to the whole collection from that site.

All three sealings belonging to the *beneficiarii consularis* [0524 - 0526] have EX inscribed on their reverse. Frere and Tomlin have both taken this to be analagous with EXP which seems sensible (*RIB* 2411.246 & 267; *Britannia* xxii (1991), 302, no.33).

Sealing bearing the inscription AR / LEG / XIV [0426] - Dissard (1905, no.45) thought that AR might be *A R(ationibus)* - 'accountant', but this must surely be wrong since the *a rationibus* was a civil official connected with the treasury. I have not been able to find any reference to this title being used in a military context, the post usually being filled by either the *signifer* or a *librarius*. If Dissard had instead meant 'from the accounts' then, on limited evidence from papyri,¹⁰ this should probably be *ex rationibus*. It is much more likely to be the initials of a personal name, as suggested in *CIL* XIII 10029.47.

Evidence from form and reverse

More information on the way in which the sealings were formed and attached can be found in chapter 2. Here we shall try to use the evidence of different forms in order to assess use.

The majority of military sealings are double-sided, perhaps on account of the amount of information to be applied. The single-sided sealings are as follows:

Legionary - Britannia [0397; 0404]; Dalmatia [0424], Gallia Lugdunensis [0425 - 0426, 0427 (7 examples); 0429 - 0437]; Moesia Inferior [0439 - 0442] and Syria [0443].

Cohorts - Britannia [0457 - 0458; 0474 - 0475; 0487 - 0488 (6 examples); 0500, 0516];

Gallia Lugdunensis [0519; 0520 (2 examples), 0521 (4 examples); 0522 (2 examples); 0523].

This shows that all of the Legionary sealings from Moesia Inferior, the single example from Syria and all but one of the sealings from Gallia Lugdunensis are single-sided. This is in stark contrast to those from Britain where the single-sided sealings are a tiny minority. Even the sealings of cohorts reinforce this picture, when viewed in relation to their totals. This could suggest a more rigid and bureaucratic system in operation in Britain than elsewhere which in turn could relate to a special use which had to be closely monitored.

The following sealings bear the accidental impression of wood grain on their reverses:

[0520 (2 examples); 0521 (4 examples); 0523].

The following sealings bear other marks:

[0433] - impression of string on reverse; [0436] - impression of coarse fabric on reverse; [0457] - nail hole.

All of these marks reveal to some extent the nature of the material to which they were originally attached. The other single-sided sealings may have been affixed to similar items but, for reasons of alloy temperature, have not picked up the impression.

The possible uses of double-sided sealings have already been examined under this heading in chapter 3 ('Imperial Sealings - the Evidence for their Use'). However, military sealings can tell us one thing about double-sided sealings and that concerns the surviving white string that can be seen on several examples of auxiliary sealings from Brough under Stainmore. In particular, one of the sealings listed in the catalogue as [0499] is

split along the thread hole and clearly shows the white string running through. This string apparently displays a small knot which may be the reason for the positioning of the sealing or may just be an earlier repair which has fortuitously been included within the lead. If its inclusion was deliberate and typical of others then it would totally refute the idea of double-sided sealings as dangling labels. However, the value of the suggested materials sealed by the sealings from Brough would probably have rendered the label theory redundant anyway, even without the added evidence of this knotted string.

The single-sided sealings of *legio XI Claudia* found at Silistra (0439 - 0442), marked *k(astrum) leg(ionis) XI*, were found in the *canabae* of that legion's fortress (Culică, 1971, 193-7). Their reverses seem to have splayed out when the sealings were struck with the die or even when they were actually formed. They can be likened to rivets, in that they may have been pushed through a hole (in the fabric of a sack or in hides) and then hammered with the die on a hard surface to give the impression on the obverse and a non-return foot to the lower half. The presence of the sealings close to the issuing legion's own fortress is probably best seen as the result of goods being sent back to base by a detachment and the sealings then being thrown away or disseminated in some other way to the population of the *canabae*.

Evidence from association with findspot

Brough under Stainmore [0390 - 0403; 0444; 0455 - 0499; 0524 - 0525] - The largest known collection of military lead sealings is that from Brough under Stainmore, with 131 examples from cohorts [0455 - 0499], 25 legionary examples [0390 - 0403], 2 examples from *beneficiarii consularis* [0524 - 0525] and one example from an *ala* [0444]. The disposition of the various units represented makes the 3rd century the most likely occasion for the accumulation of these sealings in the rubbish dump near the fort (Richmond, 1936, 114).¹¹ As mentioned briefly above, Richmond saw the site as a centre where items received from various places (implicitly further north) were unpacked (thus

giving us the sealings) and then presumably forwarded in bulk to the 'central administration' (1936, 108).¹²

Hassall has suggested that the unit listed at Brough in the *Notitia Dignitatum*, the *numerus Directorum*, was connected with this work (1976, 111). He points out that the noun *director* is derived from the verb *dirigo* (actually *derigo* but not usually distinguished) meaning 'to aim' or 'shoot' and says 'it seems to me that it is just conceivable that the meaning intended is that of "direct", in the sense of "send" or "dispatch".'. This is an interesting idea, although the objects of the verb are usually things like ships, horses or the course of a journey.

The main problem that I can see is one of date. The sealings are said to be 3rd century (and there is no evidence of any later examples) whereas the *Notitia* list is from the late 4th century. Furthermore the *Notitia* unit is presumably one of those which Frere covers when he says 'the rest have ... fancy names typical of troops raised during, and perhaps late in, the 4th century...' (1987, 219). However, the 3rd century unit could have been renamed, or replaced by a new unit conducting similar work but in a period (i.e. the 4th century) when lead sealings were no longer used for this particular purpose.

Jarret prefers to translate *directi* as 'sharp-shooters', echoing Frere by saying that 'such a title would be typical of the fourth century, when the *numerus* was presumably formed' (1994, 70).

It should be pointed out that *dirigo* (in its correct form) can also be interpreted as 'to set in a straight line' and can thus mean 'to build regularly', suggesting to me the possibility of a unit of engineers.

On the subject of names, while not wishing to suggest that the nature of the activity on the site influenced its name (or vice-versa), it may have crossed the mind of the soldiers stationed there that the Latin name for Brough under Stainmore, Verteris,

shares its first syllable with the verb *verto*, one meaning of which is ‘to turn towards’ or ‘to direct towards’.

Although touched upon above, we should examine in more detail the question of what was being sealed and then sent to Brough. The suggested reference of *metal(la)* to lead mines raises the possible alternative of its associated product, silver. The higher value of this material could also explain the meticulous attention to sealing, often with an indication of the person responsible. Boon describes the Alston lead field as being ‘silver-rich’, citing the fact that it supplied the Carlisle mint under Stephen and David of Scotland (1991, 319). Tylecote’s general tone is that British lead was not sufficiently argentiferous to make its recovery viable, but close examination of the figures for Cumberland and Durham/Northumberland/Westmorland in his Table I suggests that in 1847 and 1923 cupellation was still economical (Tylecote, 1964, 26). Since the higher veins of lead ore often bear the most silver, it is quite possible that in Roman times the Alston field was of considerable importance.¹³ In addition, if the only reason for the activity here was to further the production of lead, it would seem ridiculous that these lead sealings were just thrown away in such quantities.¹⁴

The word *metalla* can also refer to quarries. Although there is no evidence of any major Roman stone quarries in the immediate area this is typical of the whole country and should not be used to rule this out as a possibility. There would, however, seem to be little point in transporting the local sandstone any great distance and, additionally, the sealings from Brough are not of the type normally associated with blocks of stone.¹⁵

Therefore, for these examples, we can probably return to the idea of lead ore, argentiferous or otherwise, being sent to Brough. Richmond doubted that all of the sealings at Brough were connected with mining on account of the number of units and the different styles of impression used on the sealings although he could not offer any alternatives (1936, 110-111 & 115). It is difficult to assess whether or not this is correct since we do not know where the unit represented by the largest group of sealings, *cohors*

VII Thracum, was based, or where the presumed vexillation of *legio II Augusta* was stationed. The quantity of sealings belonging to *cohors VII Thracum* led Eric Birley to suggest that this was the unit actually based at Brough (1958, 49) ¹⁶ I believe that this is well worth considering since it appears from the *legio XI Claudia* examples cited above that detachments would send back sealed consignments to their bases. I also think that these Thracians could have been sending in lead ore, since it is also found in this area.

If it is true that the majority of the units represented in the sealings at Brough were sending in consignments of lead ore then what happened to it here? Richmond, as I have said above, considered that the material from various units was probably 'concentrated' at Brough for delivery to the 'central administration' (1936, 108). This seems sensible but one wonders why the material needed to be unpacked. If it were already in man-portable sacks or boxes surely it would have been preferable to have kept it in these rather than emptying them into a large wagon? There are several possible explanations such as: the lead ore was being delivered here in order to be smelted into lead and/or desilverised; a procuratorial official was present who had to receive and weigh the ore. It is of course possible that the product had already been separated into lead and silver and that we are seeing the delivery of one or both of these metals. This supports the idea of a procuratorial official being stationed at Brough (Richmond, 1936, 109). It would have been his job to take receipt of the ingots and then despatch them under his own department's seal.¹⁷ However, although none of these occurrences need be ruled out, the simplest reason for the sealings being removed here is that it was a 'simple' collection site and the boxes, or perhaps the donkey-panniers, were the property of their original unit and needed to be returned in order that they could be used again.

There is some evidence for other activity on the site. It has been said that brooches were made at Brough (Birley, 1958, 42), but there are other signs of bronze-working on the site. It could be that some of the other items had been collected as scrap for the brooches but if so why were they discarded? For example, two bronze 'flawed castings' (a terret and a 'lock bolt' which may possibly be the handle of a folding

hare and hound knife) and one bronze 'trial piece (of an enamelled seal-box lid) were discovered in the dump here (Collingwood, 1931, 84, nos.25-7). Collingwood described the seal-box lid by saying 'the work is rough and the casting bad, and the object looks like a trial piece which has never been worked up into a complete seal-box'¹⁸ In addition, J.D. Cowen, who referred to the site as an 'undoubted centre of bronze-working', published a Celtic sword pommel from Brough which he suggested had been taken there as scrap to be melted down (1937, 67-71)

There is another item from Brough which at first I believed may have provided more evidence for the manufacture of bronze pieces, especially seal-boxes, on the site. This was a so-called imperial lead sealing (British Museum Inv. no. 74.12-28.79) which is actually the lid of a seal-box. This piece of lead, which is not entered in my catalogue, is in the shape of a piriform seal-box, inside which it is said to have been formed, and bears a bust identified as Caracalla by Richmond (1936, 120). Martin Henig describes the impression as 'male head right (?bearded) - ?caduceus behind' and says that it probably represents Septimius Severus (1974, 84 & no.819). I believe that the caduceus is certain but it is difficult to decide whether or not the 'beard' is fortuitous. The main reason why this cannot be a lead sealing formed inside a pear-shaped seal-box is that it possesses a decorated terminal knob at the end opposite the hinge. The hollow space for the terminal knob is sometimes included on the inside of the box but there is no means by which the lead therein could have been decorated with a roundel. In addition the main 'impression' is itself piriform which is not a shape usually associated with intaglios or dies. Quite apart from this the object is nothing like the normal type of lead sealing since it is flat with no thread hole. Therefore this object at first appeared to be a lead trial piece for the lid of a seal-box. The presence of this piece, and the other seal-box lid mentioned above, may have suggested that the manufacture of seal-boxes, among other items, was taking place on this site. Unfortunately this theory is no longer tenable since there are two other lead/pewter seal-box lids with rather similar busts with caducei (identified as Mercury) which were found in Lyon, along with another complete, hinged, lead seal-box showing a figure of Victory moving r. (Dissard, 1905, 299-300, nos.1946-1948) This latter

example in particular infers that these lead seal-boxes were actually being used and were not just trial pieces. Therefore the Brough seal-box lid, although now paralleled and hopefully interpreted correctly, cannot be taken as anything other than general rubbish on the site.

Despite this, we could perhaps suggest that, together with lead ore, raw materials for other metal-working on the site were among the items sealed. Copper is not apparently found in this area but in note 5 we saw that fluorspar was found at Whitley Castle. Perhaps this was being sent to Brough for the manufacture of enamel to be used in decorative bronze-work?

Having said this, however, we should not forget that bronze-working in some form would have taken place on many Roman military sites and so this evidence cannot be used to claim any special function for the site.

In fact, we must be careful even in drawing any inferences from the presence of the sealings on this site. After all, they have only come to light by accident (erosion by the river) and there could quite possibly be similar collections still lying undiscovered near other forts.

Sealings of *cohors V Gallorum* at South Shields [0508 - 0514] - These 7 sealings were all found in the fort at South Shields. The unit is definitely attested here in AD213 (*Britannia* xvi (1985), 325-6) and again in AD222/3 (*RIB* 1060). Dore and Gillam interpreted the sealings as belonging to a period prior to the latter date (the earlier inscription had not been found at the time of their writing), partly on the assumption that sealings are not found in the fort where the issuing unit was based (1979, 67-8).¹⁹ They believed that the unit was stationed at Cramond during the Severan campaigns and sent the sealings from there. Theoretically this could still hold true even in the light of the earlier inscription. However, their assumption concerning the findspots of sealings is logical but unfortunately incorrect.²⁰ This could mean that the sealings are later than

AD222/3. On the other hand, I believe that the sealings may still date from the Severan period but that they serve to resurrect the idea that *cohors V Gallorum* was split between South Shields and Cramond (*ibid.*).² It would be quite possible to envisage the bulk of the unit at Cramond (or elsewhere) sending items back to the small detachment left in charge of the granaries.²² It may therefore be possible to use the sealings as partial evidence for the same theory that Dore and Gillam were using them in order to reject.

In fact, the seventh sealing [0508], found in 1990, was located in the demolition deposits of a building dating from the time of the conversion to a supply-base (*Britannia* xxii (1991), 232; xxiii (1992), 322, no.42). This sealing is rather confusingly said to suggest that the unit was 'already associated with the fort in this earliest phase of the supply-base' although the building is described as having had a short life (*ibid.*, 1991).

Sealings of military units found at Lyon [0425 - 0437; 0518 - 0523] - There are 19 legionary sealings and 11 sealings of auxiliary cohorts, all apparently found in the Saône, where they had presumably been removed from packages as they were unloaded from boats. This in itself raises the question of why would the army immediately unwrap goods on the quayside? There is no obvious reason, regardless of whether the packages were to be stored in a waterside warehouse or immediately taken to their destination, unless of course there was no other way of telling what the contents were! If this were true it would be surprising, considering the use of lead labels, military and otherwise, in Austria, Germany and Britain²³ and the writing in ink (*tituli picti*) on amphorae. Another reason could be that the packages were so large that they had to be opened in order that the contents could be man-handled once on the quayside. This is quite possible since the actual unloading of large items would have been conducted using a crane of some description. The possibility that much of the cargo had already been transferred from large ships to smaller river-going craft at Arles (King, 1990, 115) does not hinder this idea and we should not expect to see the goods being repackaged at that point.

The legions represented here are the *XIV Gemina* [0426], *XX Valeria Victrix* [0434 - 0435], *XXII Primigenia* [0429 - 0431; ?0432; ?0437] and the *XXX Ulpia Victrix* [0436]. There are also 9 other sealings which are categorised as legionary but which have been dealt with above under the heading 'Sealings bearing the inscription EXP'.

Unfortunately we cannot date these sealings by their presence here since the associated imperial sealings apparently cover the period from the 1st to the 5th century. In addition, the disposition of the legions helps little since the small number of sealings means that we could often be looking at individual packages sent hundreds of miles on special occasions, not localised everyday use. For example, the stationing of *legio XIV Gemina* in Pannonia from AD92/3 need not necessarily mean that the sealing dates to a period earlier than that. It is interesting to note, however, that detachments of *legio XXII Primigenia* and *legio XXX Ulpia Victrix* replaced the urban cohort of Lyon after February 197 (Turcan, 1987, 25). This may be a better reason for the presence of their sealings than Grenier's opinion that they showed Lyon to be the 'base intermédiaire des deux armées du Rhin' on the route to Italy (1934, 653).

The sealings of (presumably auxiliary) cohorts [0518 - 0523] are all rather vague in their representation of the unit to which they refer. They are certainly no match for the detailed information concerning names and ranks that we are given in the British examples. This may possibly be used to suggest that the Lyon sealings were therefore sealing packages of less importance or intrinsic value. The double-sided sealing [0518] bearing the inscription COHP on the obverse and C·M·E on the reverse is one of the only sealings from Lyon to belong to our Type no.1, the common military, imperial and official style of double-sided sealing

Virtually all of these military sealings from Lyon are single-sided which immediately renders them different to those in Britain. Even the two sealings of *legio XX Valeria Victrix* differ in this respect from the six of that legion found in Britain.

Sealings of military units found at Carlisle [0404 - 0409A; 0527] - Ian Caruana has recognised the importance of his group of sealings as one of the few to have been excavated from stratified contexts (forthcoming, 'lead objects').²⁴ This stratigraphy has enabled him to make some valuable comments on the find spots and the association of sealings belonging to different units. His most important point is that 'they have a spatial distribution which stands in contrast to most other classes of object. All the sealings come from within the forts and none were found in dumped material outside the forts or associated with buildings beyond the ramparts. In this their spatial patterning most closely resembles that of some small iron objects or personalia where it is arguable that casual loss is involved rather than any process of recovery for re-use or systematic rubbish disposal. If this is so, it implies that the sealings are likely to be close to their point of loss and unlikely to be residual.' It is rather difficult to understand exactly how lead sealings can be 'lost' in the same way as iron objects, since they were not in constant use as tools or jewellery. It may be a question of the sealings being removed from packages and then thrown away on the ground rather than collected as rubbish or being cut from packages and falling through gaps in floorboards before they could be collected as rubbish. The fact, however, that *none* were found in extra-mural rubbish dumps would tend to suggest that either the men opening the packages were very lazy/careless or that Caruana is wrong to say that they were not being collected for re-use (i.e. melting down). In the past it has always been assumed that lead sealings were usually thrown away, the numerous examples found at docksides being the most convincing evidence. Perhaps, however, some were occasionally kept as scrap for the production of new sealings.

Evidence from written sources

There is only one apparent literary reference to a military lead sealing, 'The Acts of Maximilian' (*ACM*, no.17) referring to events in Numidia in AD295. I have already commented elsewhere on this and have stated my disbelief that any of the sealings known

to me were used as *bullae*/identity tags around the necks of recruits (Still, 1993, 406-7). However this is the place for a fuller examination of the evidence.

The matter is somewhat clouded by Roy Davies saying that the *signaculum* was 'a piece of lead with a seal and with the man's name, which he carried fastened on a cord round his neck ... , rather like a modern identity disk' (1989, 14). This sounds rather like our auxiliary sealings from Brough, but there are problems. First of all, the presence of a seal on the lead is never mentioned in the original text, although it could be argued that the very word *signaculum* suggests that a seal was indeed used. The relevant part of the text says:

Dion ad officium dixit: Signetur. cumque reluctaret, respondit: Non accipio signaculum saeculi; et si signaveris, rumpo illud, quia nihil valet. ego Christianus sum, non licet mihi plumbum collo portare post signum salutare Domini mei Iesu Christi filii Dei vivi...

More importantly, the man's name is never said to be on the lead. Davies has inferred this from his interpretation of a phrase later in the passage:

Dion dixit: Sterne nomen eius.

Davies paraphrases this as 'Dio ordered that his name should be removed from the *signaculum*' whereas it need only refer to the crossing out of the name from the list of recruits.

Since Vegetius apparently tells us that recruits of his time (late 4th century) were branded (1.8; 2.5), Davies seems to use this text as his basis for saying that lead sealings were used instead in the Principate and that this text 'is best interpreted as an isolated recorded example of the practices of former times surviving into the Later Empire' (*op.cit.*, note 63). This would make the use of these sealings run concurrently with the majority of our military lead sealings, but it does seem to be a rather far-fetched explanation. If this practice really did take place then we do not seem to have any recognized examples of these identity discs.

Perhaps one of the best reasons for not accepting that our sealings were used for this purpose is the fact that military sealings are known from so few provinces.

Less direct, but perhaps more useful, written evidence can be found in the *Digest* (XXXIX, 4, 9, 7) where we are told that materials destined for the army were exempt from duty:

Res exercitui paratas praestationi vectigalium subici non placuit.

This obviously refers to official supplies and so would not have covered items being transported by soldiers on a personal basis.

The absence of evidence

After examining the evidence of the lead sealings which we do possess, perhaps we should consider the absence of military sealings in many provinces. We have seen earlier that imperial sealings may perform some of the services which one would consider to be military and this may go part of the way to explain the paucity of military sealings in some areas. However, the fact still remains that some provinces, most notably Britain, have many military examples whereas other provinces, e.g the Germanies, have virtually none. The accident of excavation, and metal-detecting, can only be blamed to a certain extent. I feel that we must be seeing a real absence of these sealings, not just a perceived one. This suggests that the units in areas with a dearth of military sealings were either working on different tasks which did not require such security or, even more likely, were using different materials/methods for their sealing. It may be that the heavy use of lead sealings among the army in Britain was due to the relative abundance of the metal in that province. Perhaps the army elsewhere was using unfired clay for its sealings. The lead labels which we have mentioned above (see note 23) are not suitable for sealing packages

in the sense of providing security. They seem to be used more for displaying ownership or the nature of the contents.

In Britain itself we should note the units which are not represented by sealings. These include the legions which were here in the early period of the occupation (*legio II Adiutrix* transferred to Danube c.AD87, *legio IX Hispana* left c.121; *legio XIV Gemina* finally left in 70) and the units of *cunei*, *equites*, *numeri* and *vexillationes* which are attested for the late fourth century in the *Notitia Dignitatum*, but which seem to appear from the second quarter of the third century (Jarret, 1994, 68-73). This could be taken to suggest a *terminus post quem* for military sealings in Britain of c.AD121 and, less certainly, a *terminus ante quem* of c.AD225. However, this is clearly overstepping the mark since although the three remaining legions have all produced sealings, by no means all of the auxiliary units in this time-span have. This should warn us that the absence of sealings belonging to *cunei*, *equites*, *numeri* and *vexillationes* may be due to the fact that these units were of a type which, like some of the *alae* and cohorts, simply did not conduct activities which required lead sealings. It could be argued that this may apply to the three earlier legions, but I feel that the minimal evidence of dated contexts for military sealings does tend to favour a date later than AD121, and certainly later than the 70s/80s.

Another form of missing evidence is that provided by sealings which are categorised as miscellaneous (e.g. anepigraphic impressions from intaglios) but which were found in military contexts. These will be examined more closely in chapter 9 ('Miscellaneous Sealings - the Evidence for their Use').

In the past it has been considered that some lead sealings would have been used to seal military diplomas (Martin Henig suggested this in 1992, either to me personally or earlier the same week during one of his lectures for the British Museum 'Seals of the World' seminar). Margaret Roxan points out that no diplomas have been found with lead

sealings attached whereas there are known examples with the remains of wax seals still adhering (*pers. comm.*)

Examples dated by context (see catalogue for sources)

Legionary	[0405; 0407; 0408] AD160 - 200. [0417] with 2nd C. material.
Cohorts	[0454] with residual Antonine material in the Severan extension to the fort at Brough by Bainbridge. [0500] found in the wall construction trench of a building provisionally dated c.AD85/90 [0503; 0504] from rubbish pits, or spreads of disturbed material of mid-second to early third century [0506] found in 3rd/4th C. context [0507] from a 4th C. context in Milecastle 35 [0508] found in demolition layers over a drain in front of a Severan barrack block [0515] found in a probably early 3rd C. context
Equites Singulares	[0527] AD160 - 200

It can be seen from this limited survey that [0500] is rather earlier than the other examples and [0507] (with the possibility of [0506]) is somewhat later than the others. We should note that the context date given for [0500] is only provisional and that the sealing is single-sided (rare for a military sealing although perhaps indicative of an early date) and, perhaps more importantly, is not definitely military, since the only inscription on it is [..]LIN which has been assumed to represent a cohort of Lingones.

The sealing from a 4th century context [0507] is quite similar in method of manufacture and style of inscription to the majority of military sealings which are believed to date from the late 2nd to early 3rd century. It is not impossible, however, that the techniques survived into the 4th century although Tomlin said 'the date of this sealing is ... unknown' suggesting that he viewed the association of the sealing with its context as being debatable (*Britannia* xii (1981), 394, no.104, note 119).

Conclusions

We can see from the information provided that, in general, military sealings were used to protect the contents and, quite often, to name the person responsible. The question of whether or not customs immunity was implicit in these sealings does not arise for the majority since these were only used in Britain. The examples found in the area of the docks at Lyon, however, may indeed have possessed this significance.

Notes

1. The use of 'T' in front of a name in the genitive to refer to the *turma* of so-and-so does not appear on any lead sealings but is attested in several inscriptions, including *RIB* 2410.12; 2415.63 & 65; 2425.4-5; 2426.3, 16 & 20.

2. However, this would mean that the examples from the *cohors VII Thracum* bearing TVD [0476; 0491 - 0493] which is usually taken to mean *tu(tu)d(it)* – struck (this), may refer to a decurion, T(...) V(.) Our case is helped perhaps by the reverse of the sealing of *ala II Asturum* bearing the inscription AETVD. The only other suggested uses of this word, or parts of it, are [0506] (*cohors I Aelia Classica* - believed to be *peditata*) and [0531] (*pedites singulares consularis* - definitely *peditata*¹). The possible interpretation of D as decurion would also help to explain away the only sealings thought to place a centurial sign in front of the initials [0483 - 0484]. This symbol is perhaps better seen as an S. It is difficult to say whether we should include the *cohors VII Thracum* reverse MV / CAD [0494 & 0498] in this suggestion since CAD alone is also found on the reverses of sealings of *cohors VI Raetorum*, although there is the possibility that this was *equitata* (Jarret, 1994, 65)). It is even possible that the inscription could actually read CVITR with the T and the R ligatured [cf.0478]. It is known that *cohors VI Thracum* was *equitata* and so the D may possibly refer to the decurion. The apparently single-sided sealing [0772] which bears the inscription CAD / MV would, however, render it unlikely that the D stood for decurion.

3. See, for example, the numerous entries for legionary centuries involved in the building of Hadrian's Wall in *RIB I Epigraphic Indexes*, 1983, 89.

4. Examples of inscriptions with the added name of a soldier are *RIB* 2425.2-5; 2426.1-2; 2427.2, 16-18 & 20. Those without the name of a soldier are *RIB* 2410.1-7 & 12; 2415.58-59 & 65-66; 2427.3, 13 & 19; 2428.1 & 4.

5. These lead mines at Alston are only known to have been started in the medieval period but Collingwood reminded Richmond that lead ore had been found in the fort at Whitley Castle (Richmond, 1936, 109, footnote marked †). However, Collingwood also mentioned the presence of fluorspar. Boon suggests that the unit ran a penal colony rather than doing the work themselves (1991, 319). Fifty miles further north, and possibly 100 years earlier, a document from Vindolanda probably listing the work duties of the men of *cohors VIII Batavorum* tells us that some were working *ad plumbum* which, on comparison with other entries, is taken by the editors to mean that 'men were detailed to acquire (or perhaps work with) lead' (*Tab. Vindol.* A1, 77-79).

6. The presence of zinc in this area is shown by Jones & Mattingly (1990, 179, map 6.1) but not listed in the relevant table (*op.cit.*, 181, table 6.1). However, Bishop and Coulston say that for Roman Britain the nearest source of zinc may have been Aachen in Germania Inferior (1993, 35).

7. The use of *expedio* to mean 'to dispatch', however, appears to be poetical. The more interesting prose meanings of the word which may apply here are 'to bring forward, procure, make ready, prepare' although these usually refer to items which have been folded or put away. Other meanings are 'to provide' and 'to hold in readiness', the latter usually applying to weapons. Hassall has suggested (*pers. comm.*) that EXP may stand for *expedite* - quickly - representing a 'first class' express delivery service.

8. Apart from [0428] which has the EXP on both sides.

9. See the discussion in chapter 3 under the subheading 'Evidence from association with findspot'.

10. *RMR* 70 (a i 28; ii 25; b i 9, 22) from Egypt gives *ex priore ration(e)* as meaning 'from the previous accounting'.

11. Birley points out that the dump contains 'a great quantity of objects in various other metals' (1958, 41). He suggests that the packages may even have been opened elsewhere. The rubbish dump, as it is usually referred to, is on the north side of the fort and the sealings and other objects were found in the Swindale Beck which had changed course and was eroding the slope. It seems possible that it was formed by refuse being thrown from the northern rampart and allowed to roll down the slope. Dr. David Woolliscroft, who has conducted surveys on the site, agrees with me on this. I had also considered the possibility that what is usually identified as the Roman rubbish dump may be the spoil heap resulting from the building of the Norman castle inside the fort, against the northern rampart. In this way the sealings would originally have been disposed of inside the fort, although still possibly as rubbish in pits. Some of the material found with the sealings is said to be medieval (Smith, 1866, 144 & 146). Woolliscroft, however, believes that during the Medieval period earth from inside the Roman fort was dumped on to the Roman ramparts in order to strengthen them, and was not dumped down the slope. His amendment to my idea is that there is physical evidence that the Roman ditches were redug as defences for the Medieval castle and that therefore it is the rubbish deposits contained within these which were dumped down the slope. Incidentally, Woolliscroft informs me that he has now completed an authorised metal detector survey of the entire north front of the fort and some way down stream (using one of the most powerful detectors available) without locating any further sealings.

12. The 3rd century date usually assigned to these operations, gives us the possibility that the goods' next destination was York, the capital of Britannia Inferior, rather than London. However, it is possible that they could have been sent to the higher ranking governor of Britannia Superior in London (and thence onwards?). If the product sealed was silver then it may have gone to the treasury in London before being sent to Rome.

13. In 1847 Cumberland had 9oz per ton (270 parts per million) whereas Durham/Northumberland/Westmorland had 12oz per ton (360 ppm) In 1923 Cumberland had 6oz per ton (180 ppm) as did Durham etc. Jones and Mattingly point out that

desilverisation is economical at 120 ppm and even better above 170 ppm (1990, 190). They note that a lead ingot from the Roman workings at Charterhouse, prior to cupellation, had 560 ppm and perhaps we could imagine a similar figure for the higher levels at Alston.

14 The ordinary soldiers may just have been doing their job but one would hope that this would occur to someone of higher rank. However, the quantity of the material sealed may have rendered the wastage minimal in comparison. It would also have been necessary to remove the tin which had been alloyed with the lead to make the sealings (Richmond, 1936, 122-23).

15. Cf. Appendix I.1 - 36. The most important difference is that the type normally associated with blocks of stone are formed by pouring molten lead into large holes gouged out of the stone, i.e. they are large and one-sided unlike our small double-sided sealings. The fact that the sealings for stone are from diverse sources, not just one province, and belong to the imperial and miscellaneous categories, renders it unlikely that the Brough sealings are a British alternative.

16. Birley also said that there was no doubt that *cohors VII Thracum* was *equitata* like the other Thracian cohorts. This has only recently been proven by a diploma of AD178 published by Margaret Roxan (*RMD* 184). Jarret has pointed out that the size of an equitate unit would make it 'difficult to believe that it could have been accommodated in the known fort at Brough' (1994, 67). Collingwood, however, had suggested in 1927 that the fortlet at Maiden Castle was garrisoned by a *turma* from Brough (1927, 175-77). Woolliscroft agrees with this (pers. comm.), apparently dismissing Birley's colourful idea of a militia garrison (1958, 49). Woolliscroft adds that there are at least five towers in the vicinity which would have needed to be manned, including Johnson's Plain which he excavated (*Britannia* xxii (1991), 235-7), although he points out that these may be rather early.

17. There is only one possible procuratorial lead sealing known in the whole empire [0286] but perhaps imperial sealings were usually used.

18 It is possible that other seal-box lids have been found, since Birley, précising Ecroyd Smith (1866, 146), mentions 'amulets - chiefly of bronze, including many varieties of the heart shape ... and a large proportion of phallae (sic - presumably phalli is intended), one of pewter, lately found, bears an imperial or other bust' (1958, 42) The 'sic' in this quote is Birley's own and I prefer to believe that Ecroyd Smith meant *phalerae*, not in the strict sense, but meaning pendants for horse harnesses. He then presumably refers to our lead trial piece with the bust which could be misinterpreted as an item of 3rd century equine equipment (cf. Bishop & Coulston, 1993, 156, fig.112) Whether or not his heart-shape amulets can also be taken as seal-boxes/lids is open to question and they may be late Roman strap-ends. The possibility that a *cohors equitata* was based here would certainly make the presence of various pendants understandable.

19. Only 6 of the sealings [0509 - 0514] had been found up to the date at which they were writing
20. The example of *legio XI Claudia*, already given above, appears to illustrate this, as do [0453] and [0515].
21. This also seems to be the view of Tomlin (*Britannia* xvi (1985), 325, note 29).
22. This may be reinforced by Breeze and Dobson's comment that the refitting of the fort at Cramond may indicate that it was to play a part in the sea-borne supply line from South Shields (1987, 136). It is, however, rather difficult to imagine what was being sent back to South Shields.
23. There are examples of lead tags in Austria from Magdalensberg (Egger, 1967, 195ff.) and Kalsdorf (Römer-Martijnse, 1990), German examples from Trier (Schwinden, 1985, 121ff.) and British examples from several sites (*RIB* II 2410.1-23)
24. I must thank Dr. David Woolliscroft for forwarding to me a draft copy of Caruana's chapter on lead objects.

MISCELLANEOUS SEALINGS - THE EVIDENCE FOR THEIR USE

The category of Miscellaneous sealings covers all those belonging to private individuals together with those which cannot easily be assigned to any other category. It therefore includes sealings bearing *tria nomina*, other unidentifiable inscriptions and anepigraphic sealings with representations of deities and animals, many of which appear to be impressions from intaglios.

Evidence from impression

Many Miscellaneous sealings bear the names, in various states of abbreviation, of private individuals. These are assumed to be merchants (see section below on 'Evidence from association with findspot'). The more recognisable of these names can be seen in the indices entitled '*Nomina* of Individuals and Families' and '*Cognomina* of Individuals' although there are many more which take the form of the initials of *tria nomina*.¹ On account of the general lack of punctuation found in these inscriptions, many of them can be interpreted in several different ways. This is not helped by the fact that the initial letters of some *tria nomina* appear to form words in themselves. One of the best examples of this is that given in *CIL* XIII pars 3, fasc.2, p.722. This uses my [1202] which has SEC on the obverse and SOL on the reverse. These are interpreted variously as:

S. E(...) C(...) (et) S. O(..) L(...)
SEC(...) (et) SOL(...)
S. E(...) C(..) SOL(...)
SEC(...) S. O(...) L(..) (sc servi)

The last expansion, with *servus* in the genitive understood and in apposition to the slave's name Sec(...), reminds us of Grenier's belief that 'lorsque la marque comporte quatre initiales il faut reconnaître, sans doute, dans la dernière, celle du nom de l'agent, homme libre, affranchi ou esclave, à la suite des initiales du patron de la maison de commerce.' (1934, 657-8).² Parker, however, when talking about similar sets of initials in amphorae stamps, suggests that the fourth letter was 'an added initial or control mark' (1987, 641).

Interpuncts are not always as helpful as they should be. For example, one suspects that some of those in [0763] were added for decoration. It also appears that some impressions have less than would be expected: [1021] has one but needs a second; [1048] also has one but needs a second; [1064] has the second but needs a first, as do [1072] and [1170].

Problems such as these can lead to great uncertainty in the case of some sealings. although it is probably best to say that there was no set formula and that people included anything that they wanted to in their matrix, limited only by space.

The figural representations depicted on the sealings tell us virtually nothing about the use of the sealings and are dealt with separately in chapter 13 ('The Iconography of lead sealings').

The inscriptions found on these sealings however, both with and without any additional figural representation, can provide us with some interesting information.

Many sealings apparently refer to family businesses in that they give a *nomen* in the genitive plural, i.e. telling us that this is the sealing of that family/company. These sealings are as follows:

Aelio(rum) [0850], Cossior(um) [0930]; Ignior(um) [0987]; III Iul(iorum) He(...) Sab(...) Senat(...) [0988]; Lucilior(um) [1055 - 1056]; Marior(um) [1074], Modestio(rum) [1105]; Oratorum S(exti) et M(arci) [1128 - 1130]; Satriorum [0832; 1197]; Tertinior(um) [0751; 0835 - 0836; 1230 - 1233].

All of these are believed to have been found at Lyon, apart from [0751] which is from London.

Other sealings bear witness to partnerships by giving the abbreviated *tria nomina* of the two men involved, one on the obverse, the other on the reverse:

S. M(...) P(...) (et) L. F(...) S(...) [0798]; Calvini (et) Frontini [0873]; C. A(...) M(...) (et) Q. I(...) V(...) [0875]; C. A() T(...) (et) S. E(...) R(...) [0883]; C. E(...) D(...) (et) P. A(...) T(...) [0891 - ?0892]; C. S(...) R(...) (et) L. I(...) V(...) [0945]; L. C(...) P(...) (et) C.V(...) [.] [1012]; L. D(...) A(...) (et) L. D(...) M(...) [1013]; L. G(...) A(...) (et) L. G(...) S(...) [1017]; L. V(...) V(...) (et) M. V(...) V(...) [1062 - 1063]; M. C(...) M(...) (et) M. E(...) R(...) [1083]; S. C(...) S(...) (et) S. E(...) S(...) [1200]; S. E(...) C(...) (et) S. O(...) L(...) [1202]; Q. C(...) T(...) (et) M. V(..) V(...) [1510].

Other sealings give the two sets of abbreviated *tria nomina* on the obverse:

M. C(...) P(...) ET T. N(...) M(...) [1085]; M. I(...) H(...) / C. M(...) V(...) [1097]; M I(...) S(...) / C. M(...) V(...) [1100], P / MLM / P = P. L(...) P(...) (et) M. L(...) M(...) [1149]; T. L(...) L(...) / A. T(...) R(...) [1235].

Other sealings may refer to these partners by abbreviations of their *nomina* or *cognomina* (although the first example could fall into our previous group):

DOM(itii?) (et) PAN(...) [0956], NOB(ilis?) (et) VIC(toris?) [1126]; SER(..) (et) EPIC(...) [1203].

Many sealings bear the same abbreviated *tria nomina* on both obverse and reverse. It is impossible to tell whether these simply refer to the same man or a father and eldest son. The former, however, is more likely. These examples with repeated legends are as follows:

MAM [0735]; LAM [0788]; ACF [0848]; CAM [0874]; CLP [0912]; CMD [0914]; CSS [0946]; CTM [0948]; GNT [0971]; LCM [1011]; LED [..]D [1015]?; LII [1021]; LIP L[.]P [1023]?; LMR [1032]; LNI L[.] [1033]?; LRG [1035]; LSC [1040]; LSS [1049]; MAL [1069]; MAP [1071]; MIL M[.] [1098]?; PDD [1138]; QCM [1167]; SCV [1201]; SHM [.]HM [1204]?; SMA [1209]; SMM [1212]; TCT [1222]; MVR [1562];

It is possible that other companies are also represented in sealings. One example from Lyon is inscribed C[.]AS S[.]CIOR [0882]. *CIL* XIII, 10029.201 expands this as C. [.] [.] (et) [.] A(...) S(...) S[o]CIOR(um) thus interpreting it as the sealing of a partnership (*socii*). A similar partnership may be referred to in [1774] which has AR / SOC, although the names of the partners would not seem to be hidden in the abbreviation AR. Turcan suggests, perhaps more plausibly, that this names a different kind of grouping, the AR(gentariorum) SOC(ietas/ietatis), the association of silversmiths (1987, 39).

While discussing partnerships we should mention the six sealings marked DIFF [0955]. Dissard believed that these referred to the corporation of *diffusores olearii ex Baetica* (1905, xii-xiii). This may be possible since the corporation's warehouse was not far from the spot where the sealings were discovered.³ The expansion of D I(..) F(...) F(...) (sc. servi - genitive) given in *CIL* XIII, 10029.115 is rendered unlikely by the fact that Decimus is a relatively uncommon *praenomen* with, for example, only one or two doubtful entries in our main index to the Catalogue

One sealing which names an individual is of great interest since it also names his town of residence [1507]. The inscription says:

COCTDASI·^{FOR}·^{IVLI}·F

and is expanded as C(aius) Oct(avius?) Dasi(us?) For(i) Iuli(i) F(ecit?).⁴

Evidence from form and reverse

The great majority of the sealings in this category are single-sided with the usual swelling, of varying shape, on the reverse.

The examples of single-sided sealings which bear wood or fabric impressions on their reverses are listed in chapter 2.

Several sealings still have traces of ‘string’ (often described as hemp) in the holes which run through them. They are as follows:

[0748]; [0751]; [0988]; [1120]; [1154]; [1165]; [1198]; [1232]; [1444]; [1463]; [1467]; [1506]; [1549]; [1775] and [1809].

In addition, [1652] still had traces of ‘string’ when purchased in 1950 but these have since disappeared.

Several double-sided examples, all mentioned briefly under Type no.1 in chapter 2, conform to a style of manufacture usually encountered in imperial, official and military sealings, i.e. one side is formed in a container-matrix and the other impression is created by pressing a separate matrix on top of this.

The examples in question are [0678 - 0679] (and possibly [0677]), [0694], [0727], [0731]; [0735 - 0736] These sealings apparently belong to private individuals

but perhaps we should consider the possibility that some may be concealing references to government-backed organisations.

Evidence from association with findspot

Sealings from Lyon and London - Virtually all of the sealings found in Lyon and London were discovered in waterfront deposits (Dissard, 1905, v-viii; Turcan, 1987, 13-14; *RIB* 2411, *passim*). It is generally believed that they had been thrown into the rivers when the goods to which they had been attached were unpacked for storage in the warehouses (Grenier, 1934, 646; Turcan, *loc. cit.*). If this is correct, and there is little reason to doubt it,⁵ then it suggests that the merchants named on the sealings were at the place of dispatch. Turcan, however, draws attention to several references to individuals who are possibly connected with people mentioned on the sealings (*op. cit.*, 39, 41-2).⁶ While preserving my scepticism (mentioned in Note 1) of looking too closely at these bland names, we should at least consider the possibility that the men referred to on the sealings were based in Lyon and that the sealings, while not acting as address labels, were announcing that the merchant's agent at the place of dispatch had sealed the goods in his name.

As we have seen above, it has been suggested that some sealings may include the name of the agent, either free man, freedman or slave (Grenier, *op.cit.*, 657-8). Despite the fact that the latter would presumably fit in better with the use of a single initial, it may be that a freedman would also use a single initial in order to save space by not repeating the *praenomen* and *nomen* of his patron.⁷ If it is correct that one initial refers to an agent, regardless of his status, this could indeed suggest that the company owner, named on the sealings, was not based at the place of dispatch. It could, however, just be a security arrangement so that goods could be traced back to the individual responsible for sealing particular packages. Even if these inscriptions have been interpreted correctly there are comparatively fewer of them than of other sealings of merchants.

Basically, we have no way of telling from the sealings where our merchants were based. The sealings would have fulfilled a dual rôle, in that they would have prevented tampering by the ship's crew and would also have acted as labels to enable merchandise to be recognised. This would have been necessary when collecting goods from ships which probably carried mixed cargoes belonging to several individuals/companies. For both of these rôles the only necessary information needed on the sealing was the individual's/company's name or some recognisable symbol.

One way in which we could connect the merchant who dispatches his own goods with people in the receiving port who bear the same *nomen* is if the merchant sent his relatives, perhaps his son(s), or a freedman to oversee the reception of the goods at their destination.⁸ There is little reason to doubt that the use of a son for this purpose would be almost as likely for individuals named on sealings as for overt family partnerships.

Sealings found in River Tees at Piercebridge [0758 - 0761] - These sealings were found by divers in the area of the Roman bridge, along with a large amount of pottery and votive objects (*Britannia* xx (1989), 277 & 337). Tomlin surprisingly links the sealings with the votive deposits which were apparently dropped from the bridge. I am rather sceptical about this and would prefer to view the sealings (and presumably an unspecified proportion of the other objects) as having been thrown away as rubbish, perhaps after having been unloaded from boats although not necessarily.

At least one of the sealings, [0759], is almost certainly military although [0760] is definitely not, apparently being that of a Greek merchant.⁹

Anepigraphic Miscellaneous sealings from Brough under Stainmore [0705 - 0725] - It would be interesting to know whether these sealings, virtually all apparently taken from gemstones, represent goods sealed by merchants and then delivered to Brough or whether they indicate items sealed by soldiers and sent to Brough like the majority of the

sealings found there (see chapter 8 entitled 'Military sealings - the evidence for their use').¹⁰

Some of the sealings of auxiliary cohorts found at Brough bear the impressions of intaglios on their reverses. These all belong to *cohors II Nerviorum* and consist of five examples showing Jupiter seated [0459], one example with a bird facing a vase containing a victory palm (?) and three examples [0461] with combination figures. It is these last three which are almost identical in design to eight of our one-sided anepigraphic sealings [0718 - 0725]. I have examined the one-sided sealings but have not been able to compare them for possible die-linking with the overtly military sealings. The poor state of the one-sided examples has made it virtually impossible to attempt this even within their own group.

A look at the epigraphic Miscellaneous sealings from Brough [0682 - 0704] reveals an unusual collection, some probably misunderstood military examples [0691; 0704], and the rest quite unlike any merchants' sealings.¹¹ This can only serve to strengthen the feeling that the anepigraphic sealings were in fact serving a military purpose, or at least being used by military personnel.

Evidence from association with item sealed

Of all known lead sealings, of any category, there is only one which was found still attached to the item on which it had originally been fixed. This is a sealing from Carnuntum (modern Petronell/Bad Deutsch Altenburg) which bears an impression showing a capricorn swimming to the right [1680]¹² The interesting feature is that the otherwise blank reverse displays the marks of having been applied in a molten state on to a piece of *lorica hamata*, ring mail. There are even two complete rings and some fragments of more still embedded in the reverse. This military connection fits in well with the capricorn since this was the symbol of, among others, *legio XIV Gemina Martia*

Victrix, which formed the garrison of Carnuntum. In his article on the sealing, Dembski denies that it could have been produced during an idle moment by a soldier since he believes that an official matrix was used (1979, 157). The shape and size of the impression, however, suggest to me that it was made using an intaglio ring which has even left the mark of its bezel. Dembski therefore believes that the sealing may represent a general identification mark arranged by the legionary command to label armour belonging to it or, following Hannsjörg Ubl's suggestion, that it was a production mark of a workshop belonging to *legio XIV* (*op.cit.*, 157-8). In the absence of any examples with similar associations it would be unwise to accept this idea at the moment. Since I have no problem in seeing the matrix as having been a gemstone set in a ring, I would return to Dembski's rejected ideas of a soldier playing around, marking his own armour with his own signet for identification or wishing to show his membership of *legio XIV* (*op.cit.*, 157). I believe that the piece of lorica may even have been a scrap piece. Dembski points out that none of the rings in the impression were broken but of course he cannot say how large the original piece was (*ibid.*)

Evidence from written sources

There are apparently no ancient written sources which have any direct bearing on this category.

Examples dated by context (see catalogue for sources)

[0678 - 0679] are said to be from the upper filling of a pit of late first or early second century, although this seems rather early to me, particularly in view of their form mentioned earlier in this chapter under the heading 'Evidence from form and reverse'.

[0727] can apparently be dated by context to AD160-200.

[0736] was found in a context said to pre-date the extramural cemetery at the West End development in Leicester. No clear date has been provided for this but there is a possibility that the context could be mid-second to early third century (Clay, 1980, 318).

[1511 - 1512] can apparently be dated by the fact that they are from a fort, Velsen I, which was only occupied between AD15 and 30.

[1582] is dated by associated artefacts found in a shipwreck off Malta. The wreck is dated to the late second/early third century.

Surprisingly few of our Miscellaneous sealings can be dated closely by context although it is interesting that [0727], [0736] and [1582] give such similar dates. It is quite possible that [1511 - 1512] do actually date to AD15-30 since they are of a type quite different to any other sealings (see chapter 2 entitled 'Typology of lead sealings'). I am rather concerned about the early date proposed for [0678 - 0679] and would imagine from their form that mid-second - early third century was more likely.

Conclusions

The category of Miscellaneous sealings is, by its varied nature, a hard one to define. Many of the examples included within it are quite probably serving a military purpose or being produced by soldiers for their own personal use. The findspots, form of the sealing and their general difference to those examples accepted as merchants' sealings all provide clues that this is the case. This, however, is as far as we can take this idea and its implications for military supply by private traders, since there can be no firm proof.

The sealings which do appear to name merchants were obviously intended to be recognisable. Whether this was for proof that the sealing was original and had not been tampered with (thus ensuring the integrity of the goods sealed) or whether it was for ease

of recognition and recovery of one's goods from a ship's cargo, we cannot tell. Quite possibly the sealings performed both functions. On the other hand, security may have been the sole function with other labels, of a perishable nature, used to denote ownership. It is unlikely that sealings were used as labels of ownership without the security function, despite my past attempts to suggest reasons for this (Still, 1993, 405).

We can, however, be almost certain that these sealings have no connection with the payments of customs dues, being just for the benefit of the private individuals named.

Notes

1. Grenier points out, quite correctly in my view, that even for the more complete names, 'leur banalité ne permet pas de les rapprocher des noms analogues qui peuvent être fournis par l'épigraphie des diverses provinces' (1934, 658). However, this does not seem to have stopped Turcan from attempting to do so (1987, *passim*)
2. Although [1190] suggests that the slave-name (if that is what it is) can appear first, since there is no *praenomen* beginning with an 'R'.
3. The problem here is that no lead sealings have ever been found in association with amphorae, even on shipwrecks. Stamped lead labels were sometimes used but these were impressed strips of lead which were wound around the handles of the amphorae. The best published collection of these is a group from a wreck off the Algerian coast (Lequément, 1975, 667-680). I have also been informed by Jean-Pascal Jospin, curator of the Musée Dauphinois, Grenoble, that there is an amphora from Vienne in the bottom of which was found 'un plomb avec marque'. This is housed in the château de Moidière at Bonnefamille.
4. If f(ecit) is correct then this is one of only two places that the word may be found on lead sealings, the other possible example being [0681] which has C·BFEC, although I have suggested that this may be the *tria nomina* C. B(...) Fec(...).
5. Francis Grew has, however, drawn my attention to the fact that some of the waterfront sealings from London may have been 'dumps of general refuse, imported from anywhere in the City' (*pers. comm.*).
6. The best examples of Turcan's research are presented here, each followed by references to relevant sealings in my catalogue. The name Q. Ignius is known at Lyon (*CIL* XIII 1953; 2006.11; 2070) and on sealings from there [0829 - 0831; 1172; 1174 - 1176]. The *nomen* is also present on [0983; 0985 - 0987]. The *nomen* Satrius is found on stone at Lyon (*CIL* XIII 1824; 1888; 1910; 2193; 2258) and also on sealings from there [0821; 0941; 1197 - 1198]. The *nomen* Tertinius appears on stone several times in Lyon (*CIL* XIII 498; 1854; 1897 - 1898; 2084; 2281) and again on sealings [0834; 0835; 0835A; 0835B; 0836; 1230 - 1233].
7. In his suggested expansions which I have included above, the editor of *CIL* XIII pars 3, fasc.2, Oscar Bohn, only refers to a slave being named, not a free or freedman (*CIL* XII pars 3, fasc. 2, p 722).
8. I am suggesting this in the light of Parker's comment, based on the evidence of *tituli picti* on amphorae (especially Liou, 1980), that 'documents such as these show how much of western imperial trade was run on a family basis; the family might be based in Baetica, or southern Gaul, but a son or a trusted freedman would be posted to Ostia or Rome to act at the far end of the main despatch route' (1987, 642)

9. It should be noted that I have suggested an improved reading of [0759] to Tomlin and he agrees with this to a large extent.

10. Richmond believed that the auxiliary sealings with gemstone-impressed reverses were those of the 'commandant' and that those 'unassociated with cohort-sealings also belong to commandants of this or other units' (1936, 121-2) However, I have pointed out in chapter 2 that any soldier could have possessed such a ring.

11. Richmond felt that the epigraphic Miscellaneous sealings had probably become detached from their auxiliary sealings (*op.cit.*, 122). This does not technically apply to some which are double-sided but those examples are the ones which I believe are misunderstood military sealings anyway.

12. I have referred to this sealing in print elsewhere (Still, 1993, 406).

SEALINGS AS EVIDENCE FOR THE DISTRIBUTION OF GOODS

There are two ways in which we can assess how far sealings have travelled,¹ one is absolute whereas the other is relative:

1. The absolute method uses sealings which actually bear the name of the town or province, or its people, in the name of which they were applied.
2. The relative method involves the identification of two or more examples of the same impression in different find spots. Although we are often unable to give a place of origin, we can at least see the spread of destinations for the goods thus sealed.

In order to study Method no.1 we shall examine the evidence of the Imperial, Taxation, Provincial and Civic categories of the Catalogue, since these are the only examples to include place-names.² In the Catalogue these are ordered under their find spot, but here we shall list them under the order of their origin so as to show more clearly how widespread the distribution of some sealings was. The distances given are those between place of origin and find spot. These are measured in a straight line so as to avoid any preconceived ideas about ancient sea/land routes. General details of some of these routes are known from literary sources (i.e. Alexandria to Rome³) but there are many more which cannot be securely identified. The example of Alexandria to Rome also demonstrates that many of these routes could be much longer than the figure I have given. Where one place, either origin or find spot, happens to be a province with no further details, I have measured up to the nearest border, not to any putative provincial capital. This has meant that some entries can have no measurement since the find spot lies within the issuing province.

ORIGIN OF SEALING	FIND SPOT OF SEALING	DISTANCE	RECORD NO.
IMPERIAL			
Alexandria, Aegyptus	Rome, Italia	2000km	[0097A]
	?Rome, Italia	2000km	[0115A]
TAXATION			
Arclate, Gallia Narbonensis	London, Britannia	1000km	[0293]
	?Lyon, Gallia Lugdunensis	240km	[0295-0296], [0297] (2 ex.), [0298-0301]
Ostia, Italia	?Ostia, Italia	-----	[0302]
PROVINCIAL			
Aegyptus Iovia	Dimitrovgrad, Thracia	c.1330km	[0321]
Britannia	London, Britannia	-----	[0311]
Britannia Inferior	Aldborough, Britannia Inferior	-----	[0306]
	Binchester, Britannia Inferior	-----	[0307]
	Felixstowe, Britannia Superior	c.140km	[0310]
	York, Britannia Inferior	-----	[0313]
	Burgh Castle, Britannia Superior	-----	[0308]
Britannia Superior	Combe Down, Britannia Superior	-----	[0309]
Epirus Vetus ⁴	Pannonia	c.700km	[1691]
Maxima Caesariensis	Silchester, Maxima Caesariensis	-----	[0312]
	Trier, Gallia Belgica	c.450km	[0314-0315]
Pamphylia	?Lyon, Gallia Lugdunensis	c.2400km	[0315A]
	Izvoarele, Moesia Inferior	c.800km	[0316-0319]
Pontus	Cabyle, Thracia	c.275km	[0320]
CIVIC			
?Adramyttium, Asia	Izvoarele, Moesia Inferior	550km	[0361]
?Antandrus, Asia	Izvoarele, Moesia Inferior	540km	[0362]

Coloe, Asia	Unknown site, Moesia Inferior	c.500km	[0354-0356]
Cyme, Asia	Kalugerovo, Thracia	350km	[0376]
Ephesus, Asia	Trier, Gallia Belgica	2200km	[0328]
	Izvoarele, Moesia Inferior	720km	[0333-0336]
	Unknown site, Moesia Inferior	c.550km	[0353]
	Cabyle, Thracia	540km	[0369-0370]
	Dimitrovgrad, Thracia	520km	[0371-0372]
	Kalugerovo, Thracia	500km	[0374-0375]
Hypaepa, Asia	Izvoarele, Moesia Inferior	680km	[0348-0350]
?Hypaepa, Asia	Kalugerovo, Thracia	500km	[0387]
Laodicea ad Lycum, Asia	Izvoarele, Moesia Inferior	750km	[0337]
Magnesia ad Maeandrum, Asia	Izvoarele, Moesia Inferior	725km	[0338]
	?Svishtov, Moesia Inferior	690km	[0351]
Metropolis, Asia	Unknown site, Moesia Inferior	c.550km	[0357]
Pergamum, Asia	Kalugerovo, Thracia	350km	[0377-0378]
Smyrna, Asia	Ickham, Britannia	2600km	[0325]
	?Lyon, Gallia Lugdunensis	2100km	[0331]
	Izvoarele, Moesia Inferior	660km	[0339-0347]
	Unknown site, Moesia Inferior	c.490km	[0358-0360]
	Kalugerovo, Thracia	425km	[0380-0385]
Civitas Corieltauvorum, Britannia	Thorpe in the Glebe, Britannia	-----	[0326]
Glevum, Britannia	Cirencester, Britannia	20km	[0324]
?Vinovia, Britannia	Buxton, Britannia	160km	[0327]
Apollonia, Galatia	Kocherinovo, Thracia	800km	[0386]
Tavium, Galatia	Trier, Gallia Belgica	2000km	[0329]
Unknown city in Galatia	Kalugerovo, Thracia	c.600km	[0373]
?Pictavium, Gallia Aquitania	Unknown site, Pannonia	c.1200km	[0366]
Rusicade, Numidia	?Lyon, Gallia Lugdunensis	1100km	[0330]
	Skikda (i.e. Rusicade), Numidia	-----	[0364] (5+ ex.)
?Savaria, Pannonia Superior	Strebersdorf, Pannonia Superior	25km	[0365]
Colonia Berytensis, Syria	Beirut (i.e. Col. Berytensis), Syria	-----	[0367]
Tyre, Syria	Rome, Italia	2150km	[0332]
?Tyre, Syria	Belosem, Thracia	1350km	[0368]
	?Svishtov, Moesia Inferior	1450km	[0352]
Philippopolis, Thracia	Kalugerovo, Thracia	110km	[0379]

The average distance of travel (as the crow flies) of sealings from their places of origin within each category can be calculated by dividing the total combined distance of all sealings within that category by the number of examples, i e

$$\frac{\text{Total of distances}}{\text{number of examples}}$$

Thus, the average distance of travel for the above listed Imperial sealings would appear to be:

$$\frac{4000 - 2000\text{km}}{2}$$

The average distance of travel for the above Taxation sealings, including the Ostia example, is:

$$\frac{2920}{10} = 292\text{km.}$$

The average distance of travel for the above Provincial sealings from the border of their province, including the 7 examples found within the issuing province as having travelled 0 miles, is:

$$\frac{8945}{18} = 496.9\text{km.}$$

The average distance of travel for the above Civic sealings, including 10 examples which could only be measured to the nearest provincial border, is:

$$\frac{43288}{61} = 709.6\text{km.}$$

Therefore, the average distance travelled by the sealings listed above in all four categories is:

$$\frac{4000 + 2920 + 8945 + 43288}{2 + 10 + 18 + 61} = \frac{59153}{91} = 650\text{km}$$

This figure can only act as an indication to remind us of the distances which other sealings may have travelled. It is possible that some of these sealings which named their place of origin were intended to travel further afield than the others which did not and have therefore produced an unnaturally high figure, although the British provincial examples demonstrate that this is not always true [0306 - 0309; 0313]. In addition, I believe that many of the Civic sealings were connected with the payment of customs dues (see chapter 7 entitled 'Civic sealings - Evidence for their Use') and so would have been attached to goods regardless of how much further they were intended to travel.

In order to study method no.2 (i.e. the spread of identical sealings across the Empire) we shall examine the evidence of the entire Catalogue, omitting those examples which fit the criteria but which have already been listed above. Since the majority of places of application will be unknown, we shall list them in the order in which the first example appears in the Catalogue. Again, distances are measured in a straight line since not only do we not know which routes would have been followed but we cannot even guarantee that the distribution pattern passed through one find spot before reaching the other, i.e. we could well be dealing with two completely different lines of distribution emanating from the unknown place of origin.

RECORD NUMBER	FIND SPOT OF SEALING	DISTANCE
IMPERIAL ¹		
[0016]	London, Britannia	450km
[0052]	⁷ Lyon, Gallia Lugdunensis	

OFFICIAL

[0284]	Unknown site, Britannia	c 400km
[0285]	Trier, Gallia Belgica	

MISCELLANEOUS

[0682]	Brough under Stainmore, Britannia	44km
[0758]	Piercebridge, Britannia	
[0733]	Kirmington, Britannia	90km
[0762]	?Ravenscar, Britannia	
[0743]	London, Britannia	450km
[1084]	?Lyon, Gallia Lugdunensis (2 examples)	
[0750]	London, Britannia (3 examples)	450km
[1223]	Lyon, Gallia Lugdunensis (but lacks arrows and interpuncts)	
[0751]	London, Britannia	450km
[0835]	Lyon, Gallia Lugdunensis	
[0835A]	Lyon, Gallia Lugdunensis (6 examples)	
[0835B]	Lyon, Gallia Lugdunensis (70 examples)	
[0836]	Lyon, Gallia Lugdunensis	
[1230]	?Lyon, Gallia Lugdunensis	
[1231]	?Lyon, Gallia Lugdunensis	
[1232]	?Lyon, Gallia Lugdunensis	
[1233]	?Lyon, Gallia Lugdunensis	
[1596A]	Izvoarele, Moesia Inferior	285km
[1731]	Kalugerovo, Thracia	
[1610A]	Izvoarele, Moesia Inferior	285km
[1730A]	Kalugerovo, Thracia	

The four occasions on which identical sealings have been found in Lyon and London are probably evidence of the trade route from the Mediterranean (and further afield) up the Rhône to the junction with the Saône at Lyon, up the Saône, overland to the Moselle and then down the Rhine (or overland from the Saône to the Seine). Whether or not all of the goods would have been unloaded at Lyon before some continued to London or whether the goods bound for London stayed on board the river craft on to which everything had already been transferred at Arles is difficult to say (King, 1990, 115). The way in which the sealings at Lyon appear to have been immediately removed at the quayside and thrown into the river would, however, favour the latter.

It is interesting that identical sealings have been found at the sites of Izvoarele in Moesia Inferior and Kalugerovo in Thrace (identical examples of Ephesus and Smyrna sealings have also been discovered at these two sites). While being only 285km apart from each other they are supposedly very different in nature, Izvoarele probably being the fort/town of Sucidava and Kalugerovo presumably being the *mansio* of Arzus. It has in the past been suggested, however, that both of these sites may have acted as *emporía*.⁶ Regardless of this, we should probably see both sites simply as being settlements with economic lives, which were thus open to receive goods from similar sources.

Conclusions

We can see from the information in this chapter that lead sealings are yet another type of artefact, like amphorae and barrels, which allows us to trace the distribution of (presumably) perishable items which would otherwise be unknown to the specialist in trade and the economy.

Notes

1. However we should bear in mind that the goods themselves may have travelled from further afield prior to having the lead sealing attached.
2. This method could be adopted for the sealings of military units of which we know the bases. My argument against so doing is that, on account of the movement of garrisons, we would have to impose dates on many of the sealings which they cannot support in themselves.
3. The intended route from Alexandria as far as Cape Malea can be deduced from the account of misfortunes given by Lucian in *The Ship*, 6-9. We can also glean information for the route from Caesarea in Judaea to Rome from another voyage which did not go quite as intended, that of St. Paul in the *Acts of the Apostles* 27.1 - 28.13.
4. It should be noted that the true nature of this sealing was recognised at a late stage and it is therefore entered under Miscellaneous in the Catalogue. It is not included in its rightful place in the chapter entitled 'Categories of sealings found in the provinces'.
5. It is probably safe to assume that these sealings originate from the same place on account of their identical design, although I have omitted some other Imperial examples due to their more general appearance which could not be so closely linked.
6. See Still, 1995, 354-355 for full information on both sites.

IMPERIAL SEALINGS - THE STATISTICAL EVIDENCE

The number of Imperial sealings discovered in each province, in ascending order of quantity, compared with the total of all categories for that province is as follows:

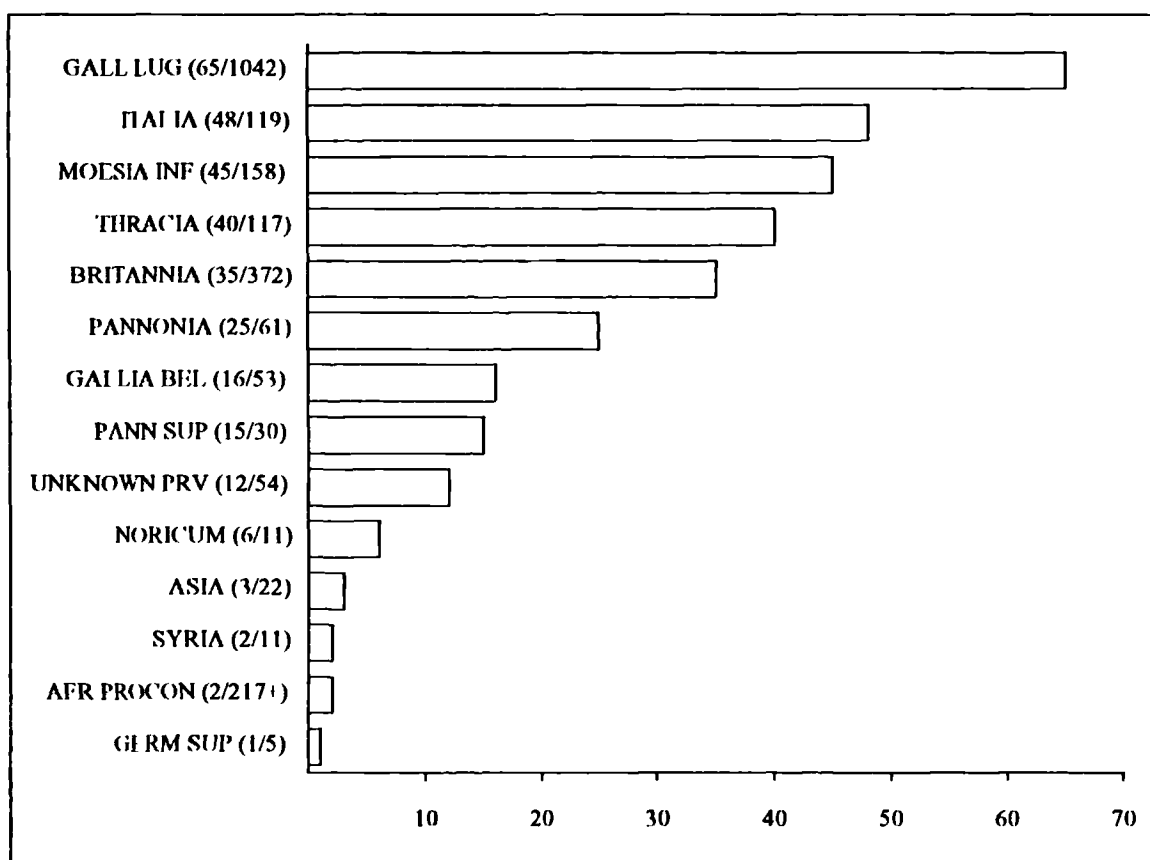


Fig 2 Actual numbers of Imperial sealings found in each province (there are no exact figures for Numidia)

The figures represented in this histogram can be seen to be extremely susceptible to the overall numbers of sealings of all categories found in these provinces. For example, the six top provinces shown here are also the six largest collections of sealings (although not in the same order).

It would be more productive to view these figures as percentages of the total number of sealings of all categories for each separate province (see chapter 12 on provincial statistics for the details of these figures):

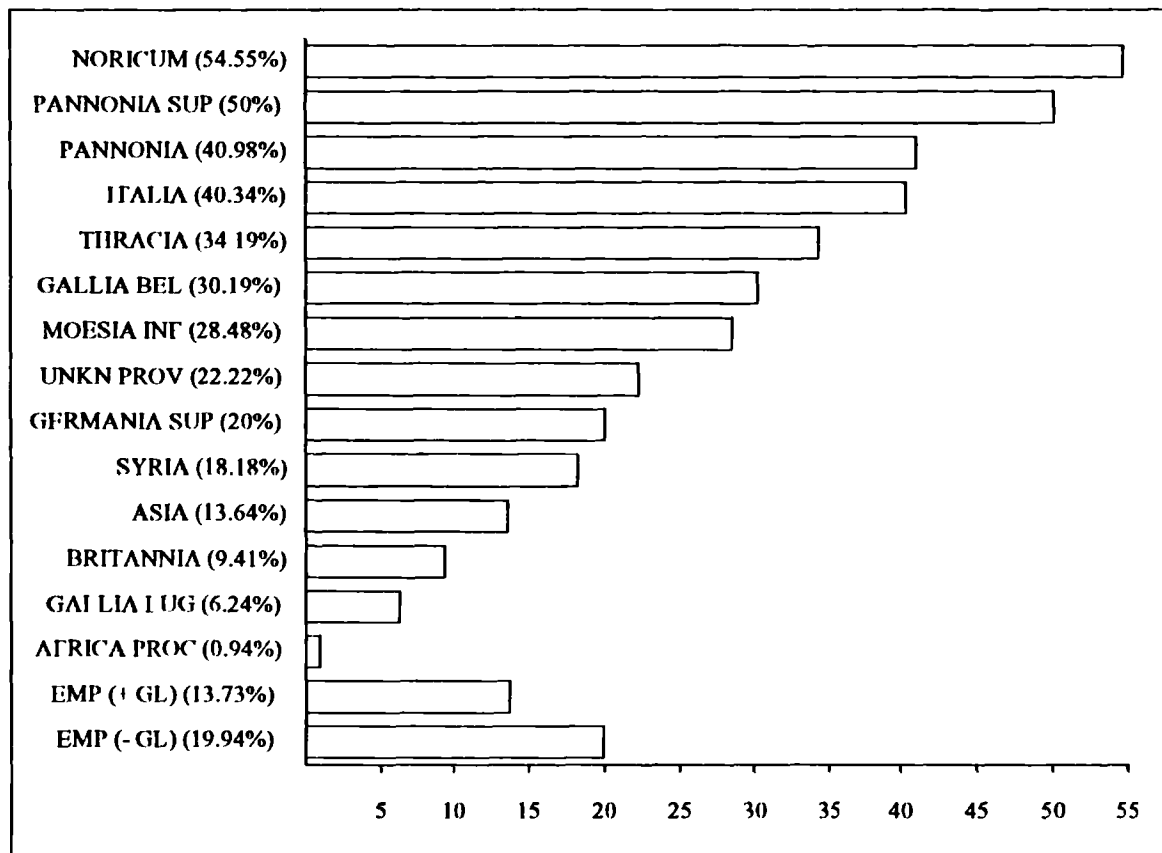


Fig.3 Imperial sealings as a percentage of the total of all sealings in their respective provinces compared with the total of imperial sealings as a percentage of the whole empire total (including and excluding Gallia Lugdunensis)

In this way we see the imperial sealings set in their true context within their own province, thus rendering the evidence of the histogram immune from the influence of any difference in the size of provincial totals. Obviously, high percentages of imperial sealings may be caused by a low number of sealings in other categories but, to a certain extent, this is what the exercise is all about.

If we study the histogram we find that, of the seven provinces with over 25% imperial sealings in their provincial totals, only Italy, Thrace and Gallia Belgica could not be described as frontier provinces. In fact Thrace often resembles a frontier province in

many ways¹ and Italy (most sealings being from Rome) obviously occupies a special place as the hub of the empire. Gallia Belgica (i.e. Trier) assumes this rôle to a certain extent in the fourth century but many sealings precede this, perhaps connected with the fact that the procurator of Belgica and the two Germanies had his headquarters there (Wightman, 1985, 62).

However, out of the remaining six identifiable provinces (i.e. those with less than 25% imperial sealings in their provincial totals), three (Germania Superior, Britannia and Africa Proconsularis) with a possible fourth (Syria - depending on the date of the sealings) are also frontier provinces.

At first glance this negates the equation between frontier provinces and a high level of activity using imperial sealings. But closer inspection suggests that the true link is between frontier provinces on the Danube and the use of imperial sealings. This may in part be due to my in-depth research in this area but, in favour of my suggestion, the publication of imperial sealings would be more likely than of private examples in any country. It would appear from chapter 3 ('Imperial Sealings - The Evidence for their Use') that the majority represent the organisation of provisions for the army by the emperor, although it is unclear as to whether or not this was only during campaigns. One reason that the Danube area has this high proportion of imperial sealings could be the incessant nature of tribal pressure on the border in this region.

When we compare the percentages for the provinces with those for the whole empire (the inclusion or exclusion of Gallia Lugdunensis makes little difference) we find that the majority of provinces possess well above the normal amount of imperial sealings as typified by the empire as a whole. However, this tells us little except that there are several provinces without any imperial sealings which therefore bring down the percentage figure for the whole empire.

In looking at the above figures, we should bear in mind that imperial sealings may tend to cluster on certain types of site. If this is so then the figures will be biased as to whether the provinces possess such sites (or at least those which have been excavated/metal-detected).

We shall now look at imperial sealings chronologically. We have no direct evidence to suggest that the lead in any sealings was ever recycled in the Roman period so the sealings as found should, in theory, be representative of those actually used. Common sense, however, tells us that perhaps recycling is something that should be borne in mind.²

Sealings assigned to emperors by inscription

If we compare the quantity of sealings of each emperor using only those sealings in the catalogue which name the emperor (and excluding the sealings in the appendices) then we arrive at the following histogram with the actual figures for each emperor shown in brackets after the name (see Table I below for details of Catalogue numbers):

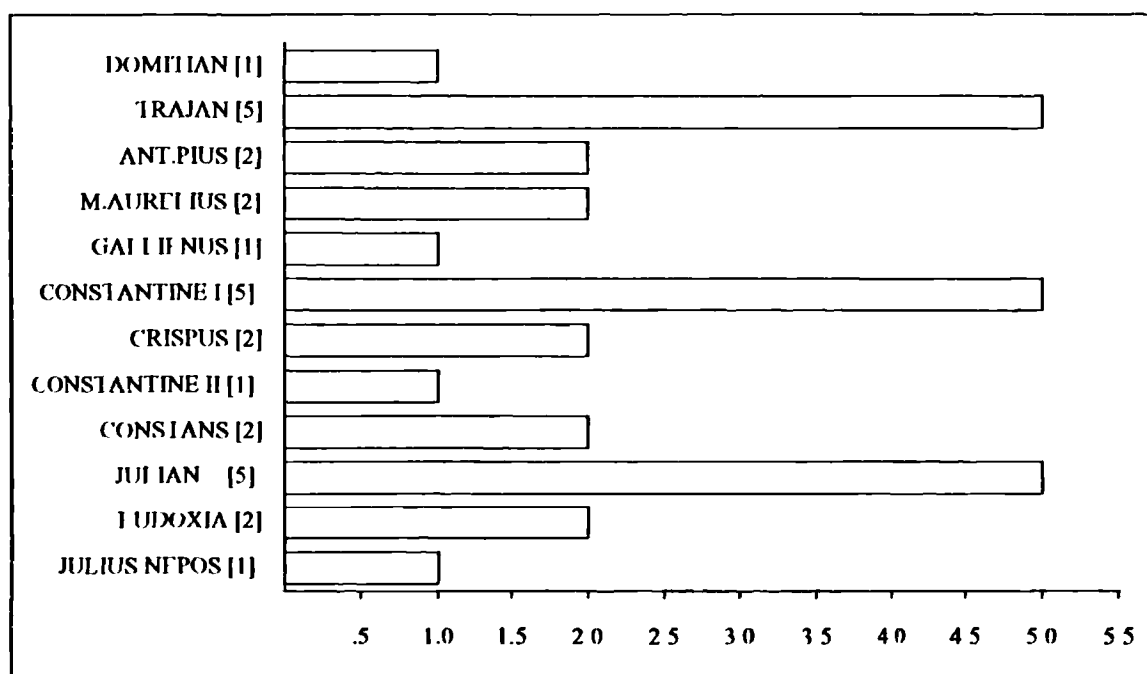


Fig 4 Actual numbers of Imperial sealings identified by inscription

This is perhaps better seen as the average number of sealings discarded in each year of each of 21 separate periods out of a putative 1000 Imperial sealings from throughout the empire. This will allow us to compare it directly with a later histogram showing less securely dated sealings which have been identified by portrait alone. This method is based on that used for coin finds (Casey, 1984, 28) although I have adapted the length of some of the periods in order to fit the nature of our evidence. The basic calculation to obtain such a figure is:

$$\frac{\text{imperial sealings per period}}{\text{length of period}} \quad \times \quad \frac{1000}{\text{total of imperial sealings for empire}}$$

However, this can be adapted as necessary and in this case we will be using:

$$\frac{\text{imperial sealings id. by inscr., per period}}{\text{length of period}} \quad \times \quad \frac{1000}{\text{total of imperial sealings for empire id. by inscr.}}$$

It should be stressed that this method is very unsafe when used in conjunction with such small amounts, but it is necessary for a direct comparison with other histograms since it omits the variable of period length.

I have indicated which Records are being used and recourse to the Catalogue will provide exact details of the emperor involved.

The figures (to two decimal places) and division of periods used in the histogram are as follows:

Table I

Period	Actual quantity & Record Nos.	‰
A (30BC-AD41)	0	0
B (41-54)	0	0
C (54-69)	0	0
D (69-96)	1 [0098]	1.33
E (96-117)	5 [0046; 0068; 0162-164]	8
F (117-138)	0	0
G (138-161)	2 [0089; 0117]	3
H (161-180)	2 [0050; 0099]	3.67
I (180-193)	0	0
J (193-222)	0	0
K (222-238)	0	0
L (238-260)	0	0
M (260-284)	1 [0194]	1.33
N (284-310)	0	0
O (310-337)	9 [0010; 0020(2 ex.); 0029-0030; 0088; 0135-0136; 0160]	11
P (337-360)	2 [0017; 0028]	3
Q (360-375)	5 [0011-0014; 0138]	11
R (375-400)	0	0
S (400-425)	0	0
T (425-455)	2 [0001; 0236]	2.33
U (455-475)	1 [0114]	1.67

Total 30

The above figures produce the following histogram:

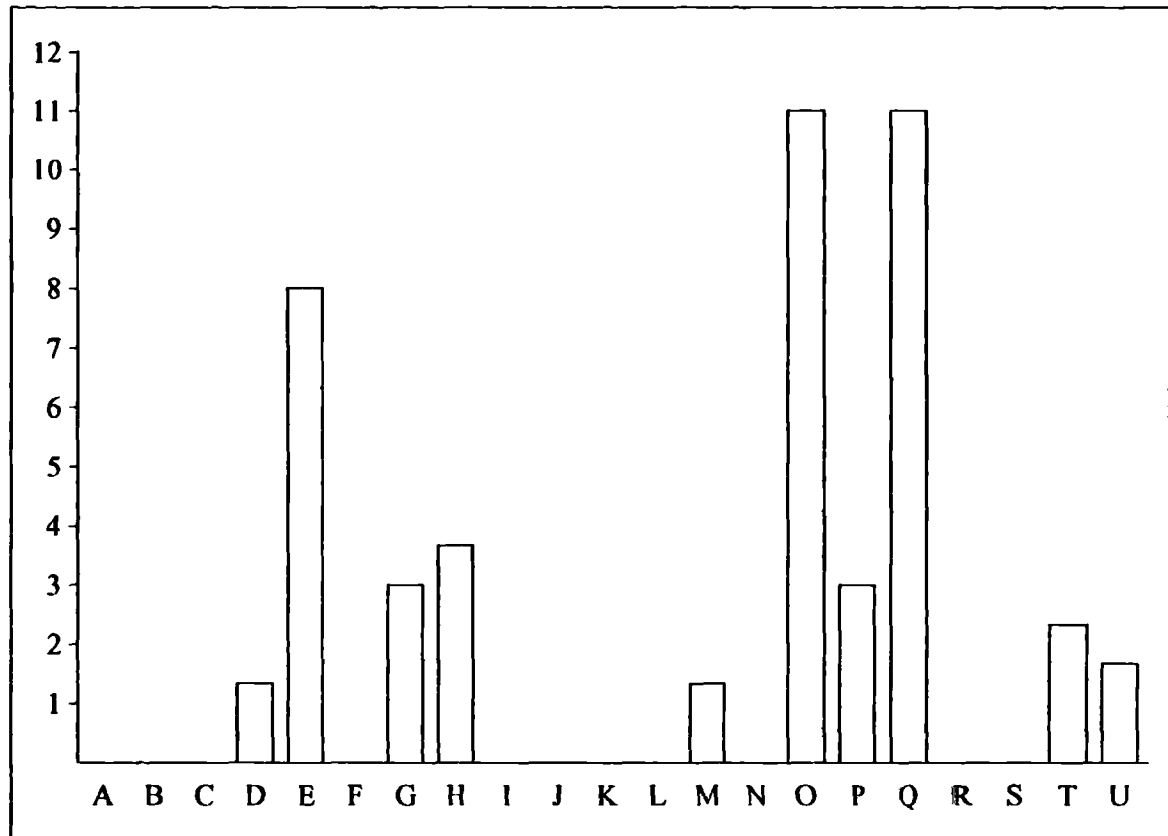


Fig 5 Imperial sealings per thousand identified by inscription

The histogram shows high figures (%) for Period E (effectively the reign of Trajan), Period O (the reign of Constantine and his Caesars) and Period Q (Julian and Valentinian I). The figure for Period E is heavily influenced by four sealings [0068, 0162-0164] which are purely epigraphic with no bust - the only ones of their kind (i.e. referring to a specific emperor without showing him). The reason for the absence of a bust is unclear and need not concern us here (although, judging by the lettering, lack of artistic ability may be a contributory factor for [0162-0164]). However, the conscious decision to produce purely epigraphic sealings at that time explains the high figure shown in the histogram.

The high figure for sealings identified by inscription in Period O may be due to the fact that the number of Caesars under Constantine had brought about the need for

close identification of emperors whose portraits were so similar. This problem had not arisen under Diocletian since the majority of imperial sealings in his period were ‘issued’ by the Tetrarchy as a whole, with four portraits [0180, 0200-0202, 0225; 0261]. This prevalence of contemporaneous rulers in the time of Constantine has probably also nudged the total higher.

The high figure for Period Q is the result of five sealings, four apparently from the same die [0011-0014]. Unfortunately, the discovery of these four identical sealings on one site renders the figure in our histogram of less use than others. This also demonstrates the dangers of using such small numbers of sealings.

Sealings assigned to emperors by portrait identification

We shall now compare the quantity of sealings which have been assigned to certain emperors by virtue of portrait identification alone. The evidence presented here is obviously less secure than that given in the previous histogram. The division into periods enables us to enter some of the doubtful sealings in the correct place according to the style of the portrait despite the fact that they could not be assigned to the reign of a particular emperor. While this loses some of the detail it hopefully renders the work more broadly correct and thereby usable. The details of which Records are being used are included in the table. For the purpose of this histogram I have had to narrow down identifications where the index suggested two different emperors for the same impression. I have also omitted three sealings, [0095, 0102 and 0122], which were originally inscribed with an unknown emperor’s name but lost it due to damage (i.e. they do not belong within our body of deliberately unnamed sealings)

The calculation being used here is:

$$\frac{\text{imperial sealings id from portrait, per period}}{\text{length of period}} \times \frac{1000}{\text{total of imp sealings for empire id. from portrait}}$$

First, here are the figures and the Record numbers used to obtain them:

Table II

Period	Actual quantity & Record Nos.	‰
A (30BC-AD41)	1 [0076]	0.09
B (41-54)	0	0
C (54-69)	5 [0127; 0230; 0239; 0257; 0276]	2.82
D (69-96)	1 [0183]	0.34
E (96-117)	1 [0085]	0.43
F (117-138)	4 [0248-0249; 0252; 0274]	1.62
G (138-161)	4 [0097A; 0101; 0104; 0280]	1.11
H (161-180)	9 [0069(2 ex.); 0070; 0071(2 ex.); 0092; 0100 0115; 0128]	4.02
I (180-193)	2 [0078; 0082]	1.28
J (193-222)	56 [0003; 0008, 0015; 0021(15 ex.); 0022; 0032; 0042; 0047 - 0049; 0053-0054; 0058-0059; 0072(2 ex.); 0077; 0081; 0083-0084; 0086-0087; 0091; 0093- 0094; 0105-0106; 0119; 0129-0131; 0185; 0190-0191, 0196; 0199; 0240; 0258; 0262; 0271-0272; 0277]	16.84
K (222-238)	6 [0079(2 ex), 0080; 0124; 0134; 0184]	3.25
L (238-260)	12 [0043; 0075(2 ex.); 0096; 0165; 0210- 0211; 0228, 0255; 0260; 0278-0279]	4 7
M (260-284)	2 [0004; 0182]	0.68
N (284-310)	9 [0074; 0180, 0200-0202; 0219; 0225; 0232, 0261]	2.99
O (310-337)	1 [0125]	0.34

P (337-360)	0	0
Q (360-375)	3 [0073; 0197; 0203]	1 71
R (375-400)	0	0
S (400-425)	1 [0060]	0.34
T (425-455)	0	0
U (455-475)	0	0

Total 117

These figures produce the following histogram:

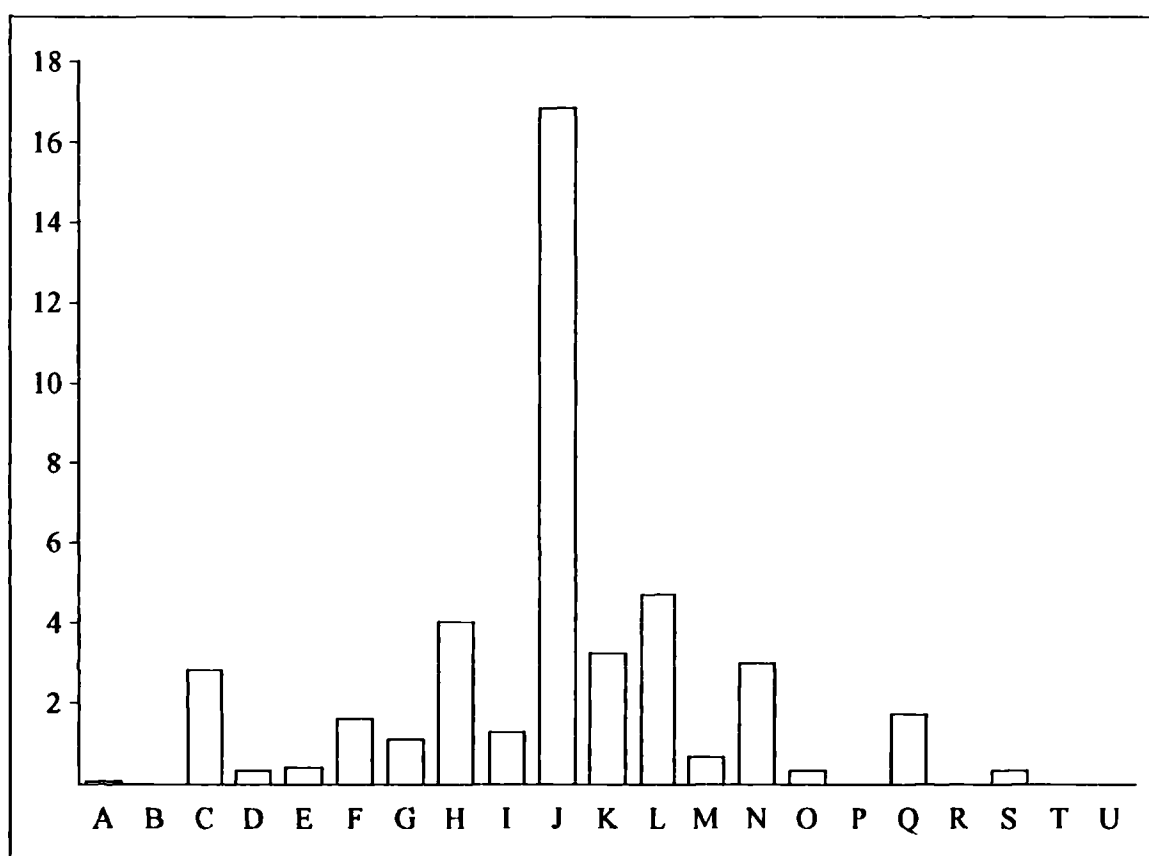


Fig 6 Imperial sealings per thousand identified from portrait alone

This histogram shows one outstanding period of recovered sealings, Period J (Pertinax, Severus and his family, Elagabalus). This is basically a real difference not just

an apparent one. The only doubt is that Severus and Caracalla are usually easily identifiable, perhaps more so than some other emperors who have not been recognised. Perhaps we should also consider the possibility of a harder lead alloy being used at this time which has resulted in better preserved portraits?

The second highest figure, although a long way behind the first, belongs to Period L (Gordian III, Philip I and Philip II, Trajan Decius and family, Trebonianus Gallus), with Periods H (Marcus Aurelius and family) and K (Severus Alexander and Maximinus) a close third and fourth respectively.

Comparison of sealings assigned to emperors by inscription and portrait

If we put the information from Figs. 5 and 6 together in one histogram it will help us to see the differences at a glance:

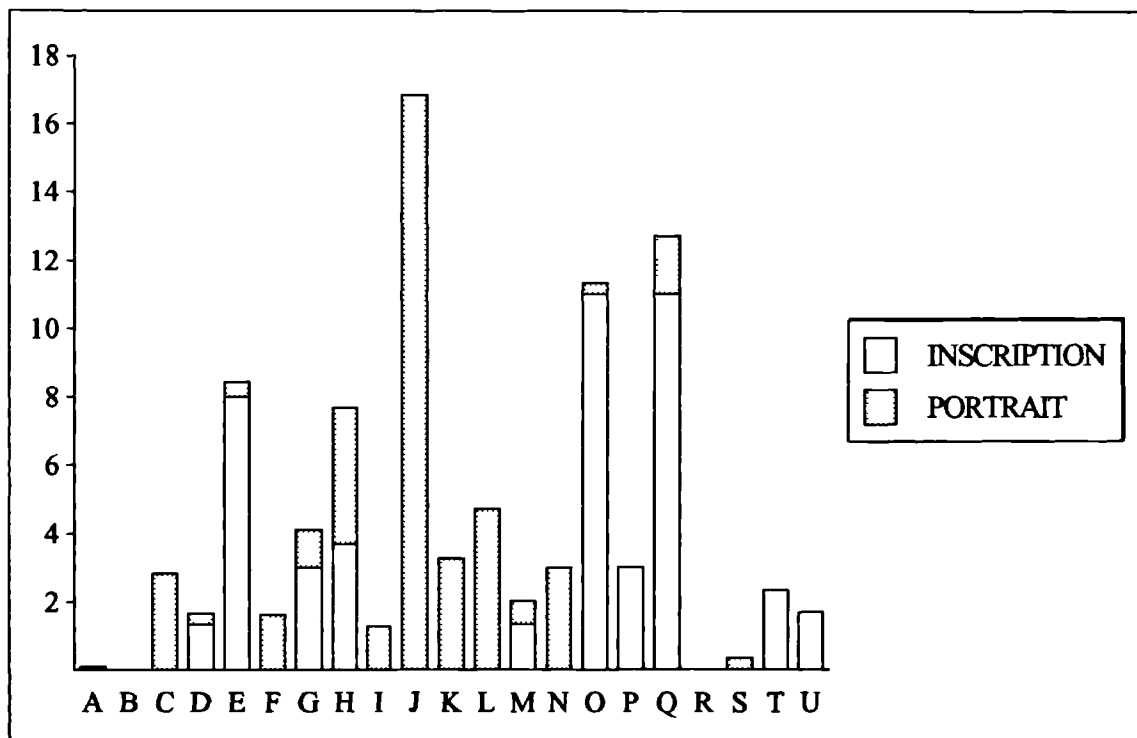


Fig 7 Imperial sealings per thousand identified from (i) inscription and (ii) portrait alone

If we compare the totals of actual numbers of sealings in Tables I (30 sealings) and II (117 sealings) we see that there are nearly four times as many identified by portrait alone as by inscription. This difference is unlikely to be due to selective publication since epigraphic examples would be preferred (although that is not to say that all sealings identified by portrait are anepigraphic). It is also unlikely to be due to busts of private individuals or deities being included accidentally since, while this is possible in itself, I have also had to omit from these figures many undoubtedly imperial sealings on which the portraits could not be recognised, thus hopefully balancing any inaccuracies.

The main reasons that I can see for the prevalence of sealings which do not name the depicted emperor(s) are: (i) there are too many busts shown for the names to be fitted in (this applies to 60 out of 117 examples); (ii) other information is included e.g. *R(atio)* *C(astrensis)* or *Anabolici*, thus limiting the space for names (this applies to 21 examples out of the 57 remaining sealings after reason (i) has been taken into account); (iii) if a bust was virtually a prerequisite then the only way to make matrices more quickly and cheaply was to omit further detail in the form of a tiny inscription; (iv) lead might not always give a clear enough impression to warrant the inclusion of a small inscription whereas a bust could still be recognised.

If we take reasons (i) and (ii) into consideration and only use the 36 sealings which depict one emperor without naming him, we now have much closer numbers of sealings identified by portrait alone and those identified by inscription. However, the real value in doing this lies in the fact that we are now comparing like with like - these 36 sealings were not left with the emperor unnamed because there was no space but as a conscious decision.

The calculation being used here is:

$$\frac{\text{imperial sealings of single emperor without other inscription, id. from portrait, per period}}{\text{length of period}} \times \frac{1000}{\text{total of imp. sealings for empire of single emperors without other inscription id from portrait}}$$

In this case the figures and records used to obtain them would look like this:

Table III

Period	Actual quantity & Record Nos.	‰
A (30BC-AD41)	1 [0076]	0.28
B (41-54)	0	0
C (54-69)	1 [0276]	1.94
D (69-96)	1 [0183]	1.11
E (96-117)	1 [0085]	1.39
F (117-138)	2 [0248-0249]	2.78
G (138-161)	1 [0280]	1.11
H (161-180)	0	0
I (180-193)	2 [0078; 0082]	4.17
J (193-222)	9 [0047; 0077; 0081; 0083-0084; 0105; 0185; 0196; 0277]	8.61
K (222-238)	6 [0079(2 ex.); 0080; 0124; 0134; 0184]	10.56
L (238-260)	7 [0075(2 ex.); 0165; 0210; 0228; 0278-0279]	8.89
M (260-284)	1 [0182]	1.11
N (284-310)	1 [0074]	1.11
O (310-337)	1 [0125]	1.11
P (337-360)	0	0

Q (360-375)	2 [0073; 0197]	3.61
R (375-400)	0	0
S (400-425)	0	0
T (425-455)	0	0
U (455-475)	0	0

Total 36

These figures produce the following histogram:

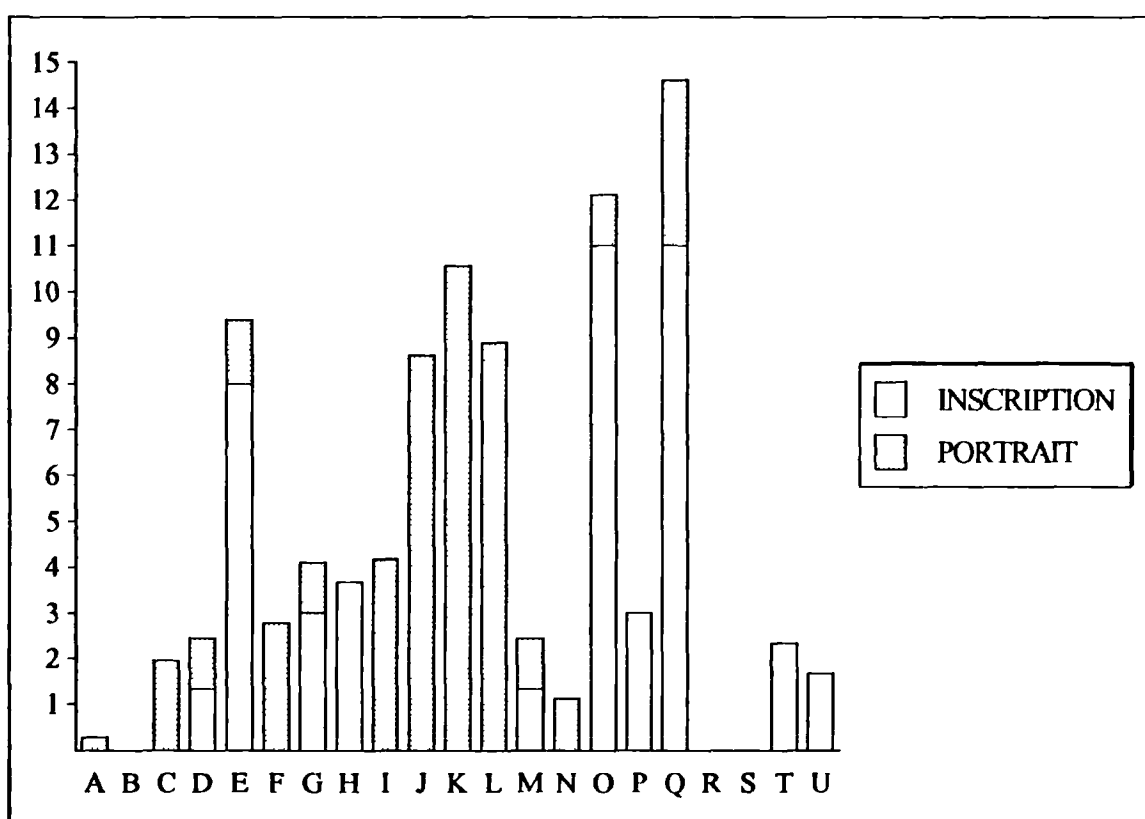


Fig 8 Imperial sealings per thousand identified from (i) inscription and (ii) portrait alone, the latter omitting examples bearing any other inscription or multiple busts

This histogram would appear to show that there is a distinct division between periods when sealings with and without an identifying inscription of the emperor were in use.³ Eight periods contain only sealings identified by portrait alone while four periods have only sealings identified by inscription. The remaining six periods (ignoring three

blank periods) have a mixture, although in these periods the named examples are usually in the majority, never the minority. The exceptions to this are Periods D and M where the two varieties have virtually the same figure.

Looking at this joint histogram we can also see that the sealings identified by portraits alone are spread more widely over the years than those identified by inscription (14 periods out of 21 have sealings identified by portrait alone whereas 10 out of 21 have those identified by inscription). This is particularly noticeable in the Periods I-L (180-260). Sealings identified by inscriptions are completely unrepresented in these four periods which include the highest, second, third and fourth highest figures for those identified by portraits alone. It is true that many of the identifications in Periods K and L are debatable although hopefully they are broadly correct, some possibly being interchangeable between the two periods. Interestingly, Period J has been toppled from its significant lead in the previous histogram. This is almost entirely due to the fact that so many of the Severan examples bore the multiple busts of Severus, Caracalla and Geta.

Conclusions

While it is true that the number of Imperial sealings which were deliberately struck without the name of the emperor (i.e. not for reasons of lack of space due to extra busts or other information being included) is similar to the number which were struck with his name inscribed, there is an apparent dichotomy between the periods in which these two types of sealing were in use. On present information it is impossible to tell whether this difference is just one of artistic preference or if it suggests differing uses or needs in certain periods. We should also consider whether this difference could just be a geographic one, although this is difficult to prove since it would require dividing the sealings into even smaller samples (separate provinces within each period) than the already dangerously low numbers on which the above work was based. On a slightly different note, I have examined the findspots of the examples used in Tables I and II and

there does not seem to be any obvious division of sealings identified by inscription or portrait between certain sites or type of site so this possibility can probably be ignored.

Notes

1. Possibly due to its close relationship with Moesia Inferior, forming a hinterland to that frontier zone, and/or because of the constant movement of troops through it, from east to west and vice-versa.
2. The amount of sealings known in all categories from all over the empire (a little over 2000) suggests that there must have been many more originally which have been lost to us. Byzantine sealings were apparently re-used to a certain extent (Oikonomides, 1987b, 101).
3. However, when working with so few sealings, such a polarisation should be expected, since the limited number of sealings can only fit into one category or another.

PROVINCIAL DISTRIBUTION OF SEALINGS - THE STATISTICAL EVIDENCE

In this chapter we shall use the evidence of the main part of the catalogue to examine the relationship between the different categories of sealings within each province. We shall do this by looking at the numbers of sealings in each category as a percentage of the total of all categories for that province. Unfortunately, the limited number of examples puts too much emphasis on just a few sealings in some provinces. Another drawback is that, as explained at the beginning of chapter 9, in addition to sealings bearing *tria nomina* and anepigraphic sealings with the images of deities and animals, the Miscellaneous category also contains sealings with unidentifiable inscriptions which may actually belong in other categories.

By way of comparison, we shall first look at a histogram produced from figures which represent a breakdown of sealings in the catalogue from the empire as a whole into their correct categories. The first set of figures and histogram will include the large collection from Gallia Lugdunensis but we shall then view the same information without the strong influence of this material.

**Table IV: Whole empire including sealings from Gallia Lugdunensis
(Total: 2304 examples)**

Number of sealings within each category	Percentage of total
Imperial (318 examples)	13.8%
Official (13 examples)	0.56%
Taxation (12 examples)	0.52%

Provincial (18 examples)	0.78%
Civic (69 examples)	2.99%
Legionary (72 examples)	3.13%
Alae (10 examples)	0.43%
Cohorts (161 examples)	6.99%
Beneficarii Consularis (3 examples)	0.13%
Equites Singulares (2 examples)	0.09%
Pedites Singulares (3 examples)	0.13%
Miscellaneous (1623 examples)	70.44%

These figures produce the following histogram:

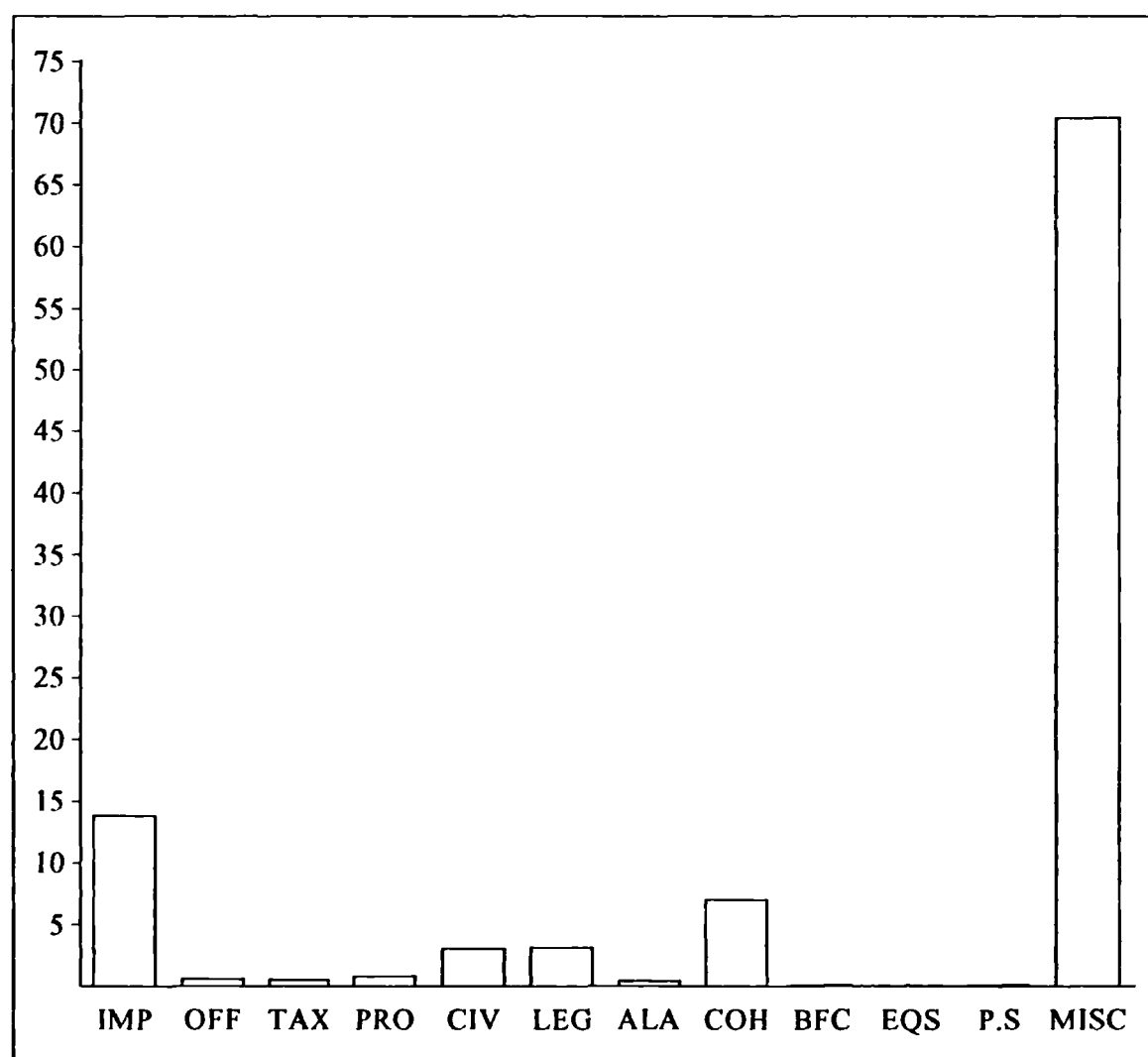


Fig 9 Percentages of sealings in different categories for whole empire including Gallia Lugdunensis

**Table V: Whole empire excluding sealings from Gallia Lugdunensis
(Total: 1262 examples)**

Number of sealings within each category	Percentage of total
Imperial (253 examples)	20.05%
Official (10 examples)	0.79%
Taxation (3 examples)	0.24%
Provincial (17 examples)	1.35%
Civic (67 examples)	5.31%
Legionary (53 examples)	4.2%
Alae (10 examples)	0.79%
Cohorts (150 examples)	11.89%
Beneficiarii Consularis (3 examples)	0.24%
Equites Singulares (2 examples)	0.16%
Pedites Singulares (3 examples)	0.24%
Miscellaneous (688 examples)	54.52%

These figures produce the following histogram:

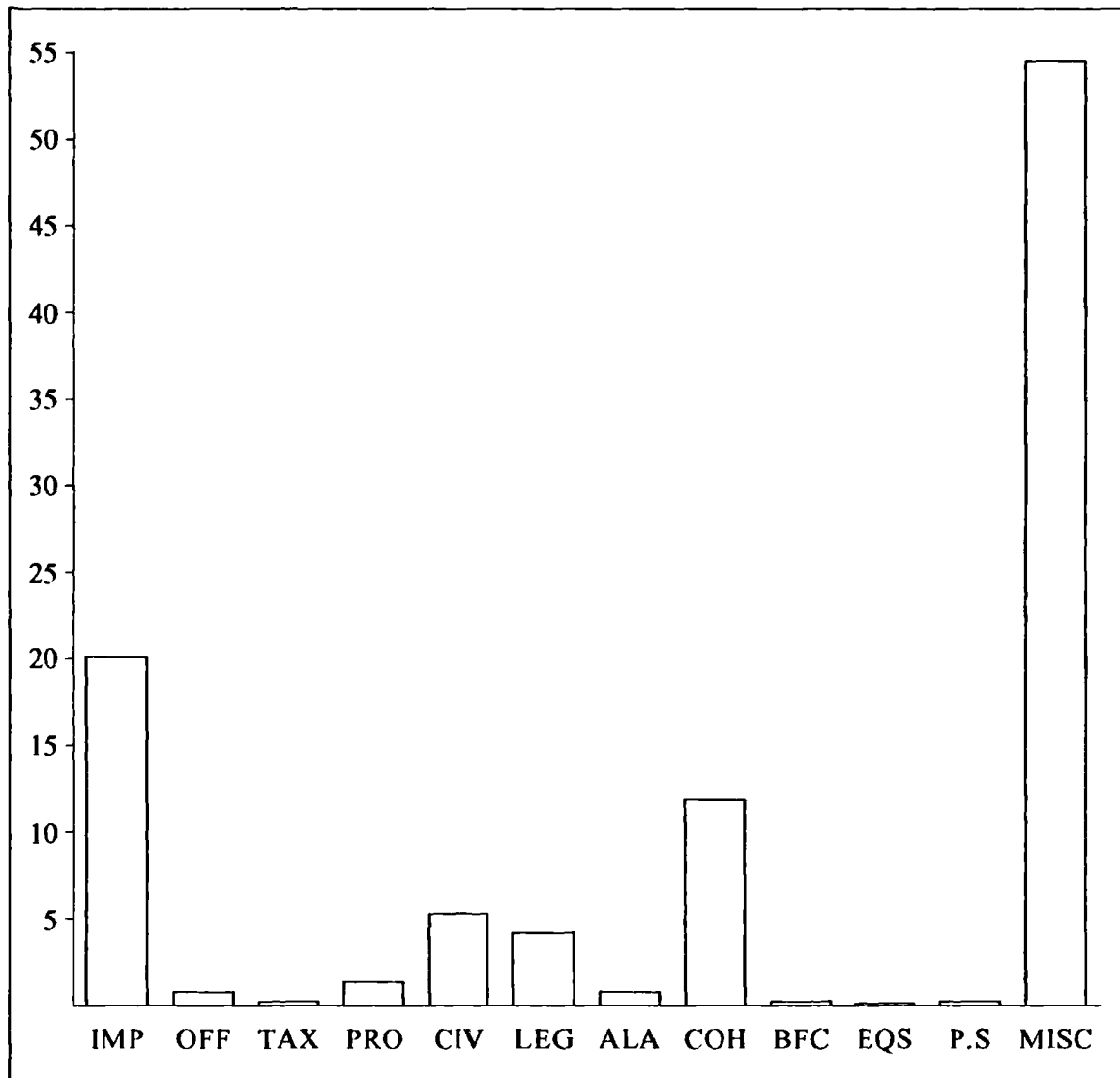


Fig.10 Percentages of sealings in different categories for whole empire excluding Gallia Lugdunensis.

Both Figs.9 and 10 present us with a similar story, although Fig.10 avoids the excesses of the Gallia Lugdunensis totals. However, we can see that the basic hierarchy of the categories is hardly affected by the presence of the large Miscellaneous collection from Gallia Lugdunensis (although the percentage of Legionary sealings was slightly greater than that of Civic) since Miscellaneous sealings are the most common anyway. Having thus satisfied ourselves that the inclusion of Gallia Lugdunensis will not ruin our results, we will include that province in our future calculations for the empire total of each category.

We shall now examine the sealings found in each separate province in order to see whether this can tell us anything about the nature of that province.

The column entitled 'Percentage of provincial total' gives us the sealings in each individual category found in that province expressed as a percentage of the total number of sealings of all categories found in that province.

The second column, entitled 'Whole empire category total as percentage of adjusted whole empire total' gives us the sealings in the whole empire categories (Table I) expressed as a percentage of the whole empire total, but, in order to compare like with like, this total ignores the other categories not found in the province in question, e.g. Africa Proconsularis contains only Imperial and Miscellaneous sealings so we refer back to Table I and add together the whole empire totals of Imperial (318 examples) and Miscellaneous sealings (1623 examples) to make an artificial whole empire total (1941 examples). This is then used to calculate what percentage the two separate whole empire categories are (16.38% and 83.62% respectively). This gives us a percentage figure which can be compared directly with the percentage figures listed under the individual province, without the interference of other categories which are not found in that province. I believe that this technique is valid since direct comparison with the figures in Table I would have led to the ratio of percentages being tainted by the other categories which were not applicable to the province in question. It is possible to separate the categories since sealings in the individual categories would have entered, or circulated in, provinces for separate reasons and would not necessarily have been affected by increased use by one organisation or another. Therefore this calculation and comparison seems fair.

Since the figures in the first and second columns are comparable, I have also noted the occasions on which the ranking of percentages by size within a particular province (e.g. Miscellaneous (70%) - first; Imperial (20%) - second etc.) differs from those which the whole empire figures would suggest is normal for a collection of sealings consisting of those categories.

Obviously, it is useless to include provinces which have produced sealings from only one category in these calculations since both columns will consistently show 100%. These provinces have been noted in the appropriate places but no further action has been taken.

Africa (only one Miscellaneous sealing)

Africa Proconsularis (Total: 217+ examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (2 examples)	0.92%	16.38%
Miscellaneous (215+ examples)	99.08%	83.62%

The two columns of figures produce the following histogram:

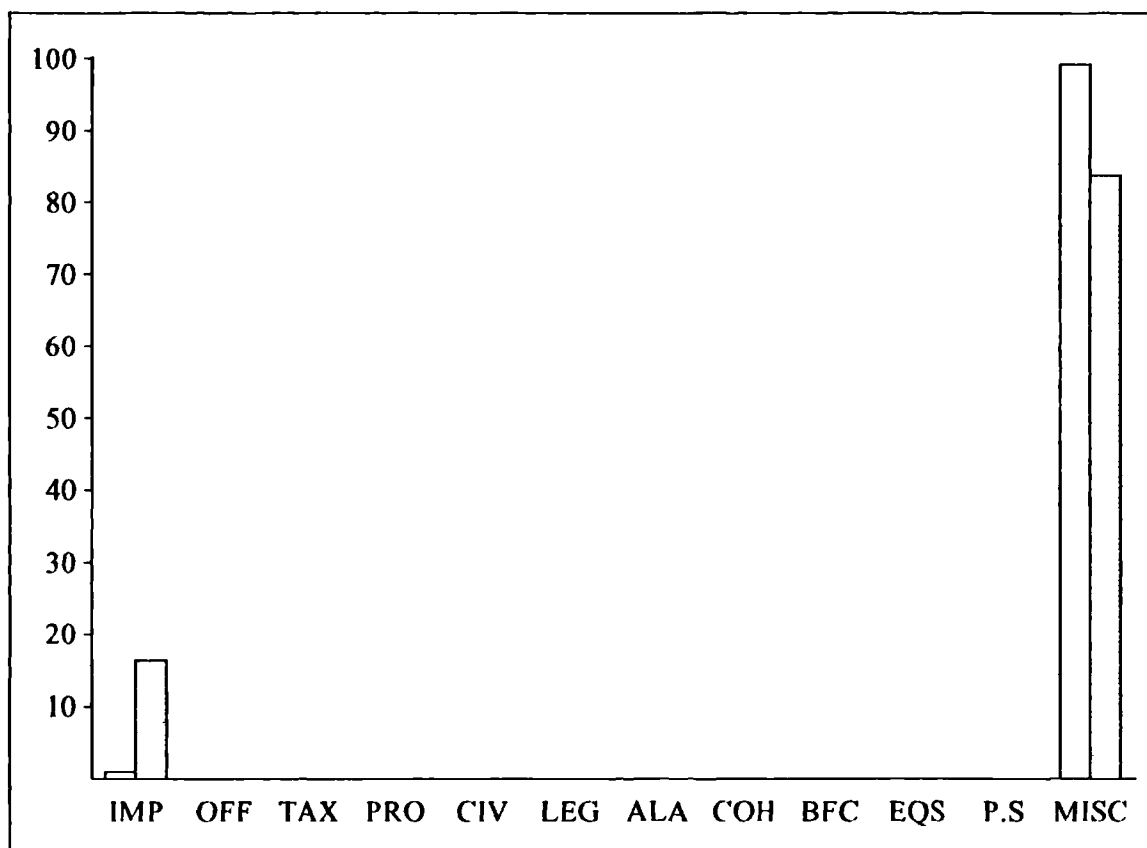


Fig 11 Percentages of sealings in different categories in Africa Proconsularis (unshaded) compared with category total for the whole empire expressed as a percentage of the whole empire total for those two categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that Africa Proconsularis has a seventeen and a half times lower than normal percentage of Imperial sealings and a higher than normal percentage of Miscellaneous sealings.

When the actual number of sealings from the province is taken into consideration, the percentages do appear to show a real difference to those based on the whole empire. The ranking of the percentages for the province is also the same as for the whole empire.

Asia (Total: 22 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (3 examples)	13.64%	16.38%
Miscellaneous (19 examples)	86.36%	83.62%

The two columns of figures produce the following histogram:

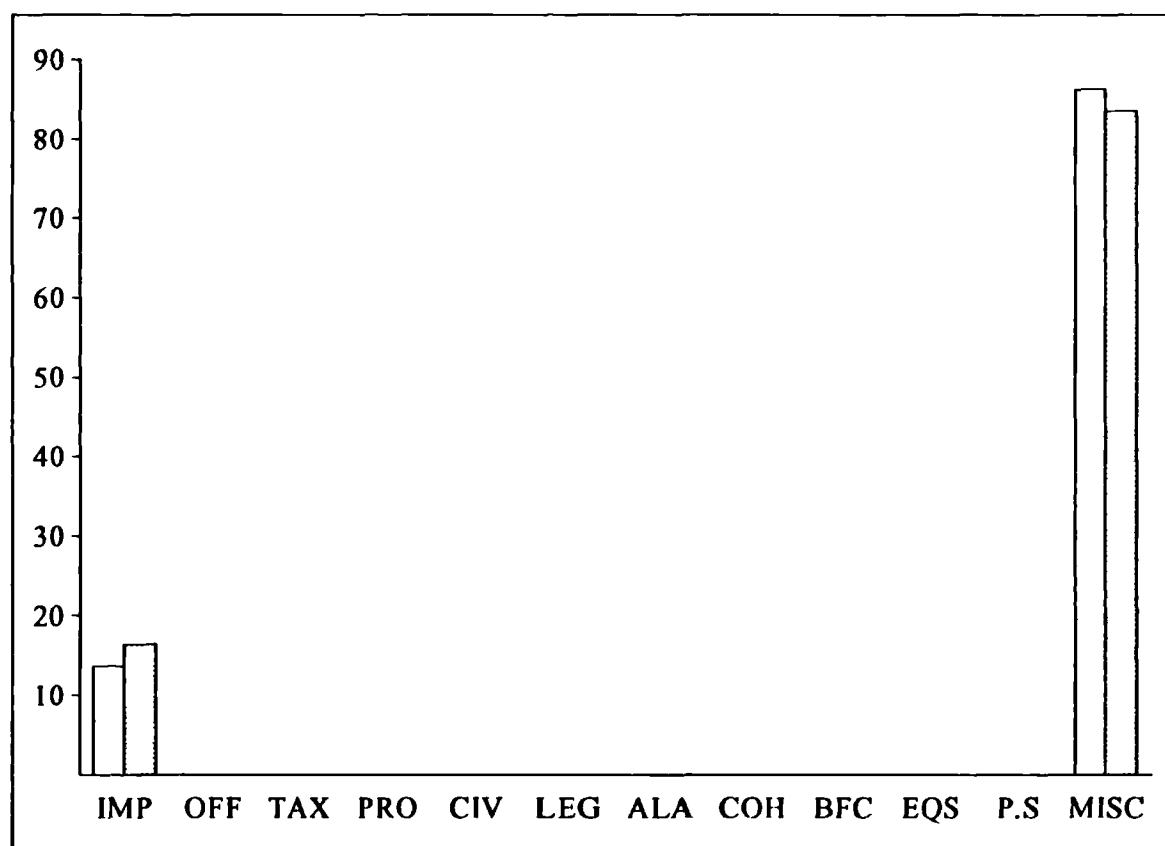


Fig 12 Percentages of sealings in different categories in Asia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those two categories (shaded)

Comparison of the first and second columns of figures (and inspection of the resulting histogram) reveals that Asia has a slightly lower than normal percentage of Imperial sealings and a slightly higher than normal percentage of Miscellaneous.

Although the total number of actual sealings from this province is not great, the percentages are very close to those based on the whole empire. The ranking of the percentages for the province is also the same as those for the whole empire.

Britannia (Total: 372 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (35 examples)	9.41%	13.8%
Official (2 examples)	0.54%	0.56%
Taxation (1 example)	0.27%	0.52%
Provincial (8 examples)	2.15%	0.78%
Civic (4 examples)	1.08%	2.99%
Legionary (46 examples)	12.37%	3.13%
Alae (10 examples)	2.67%	0.43%
Cohorts (150 examples)	40.32%	6.99%
Beneficarii Consularis (3 examples)	0.81%	0.13%
Equites Singulares (2 examples)	0.54%	0.09%
Pedites Singulares (3 examples)	0.81%	0.13%
Miscellaneous (108 examples)	29.03%	70.44%

The two columns of figures produce the following histogram:

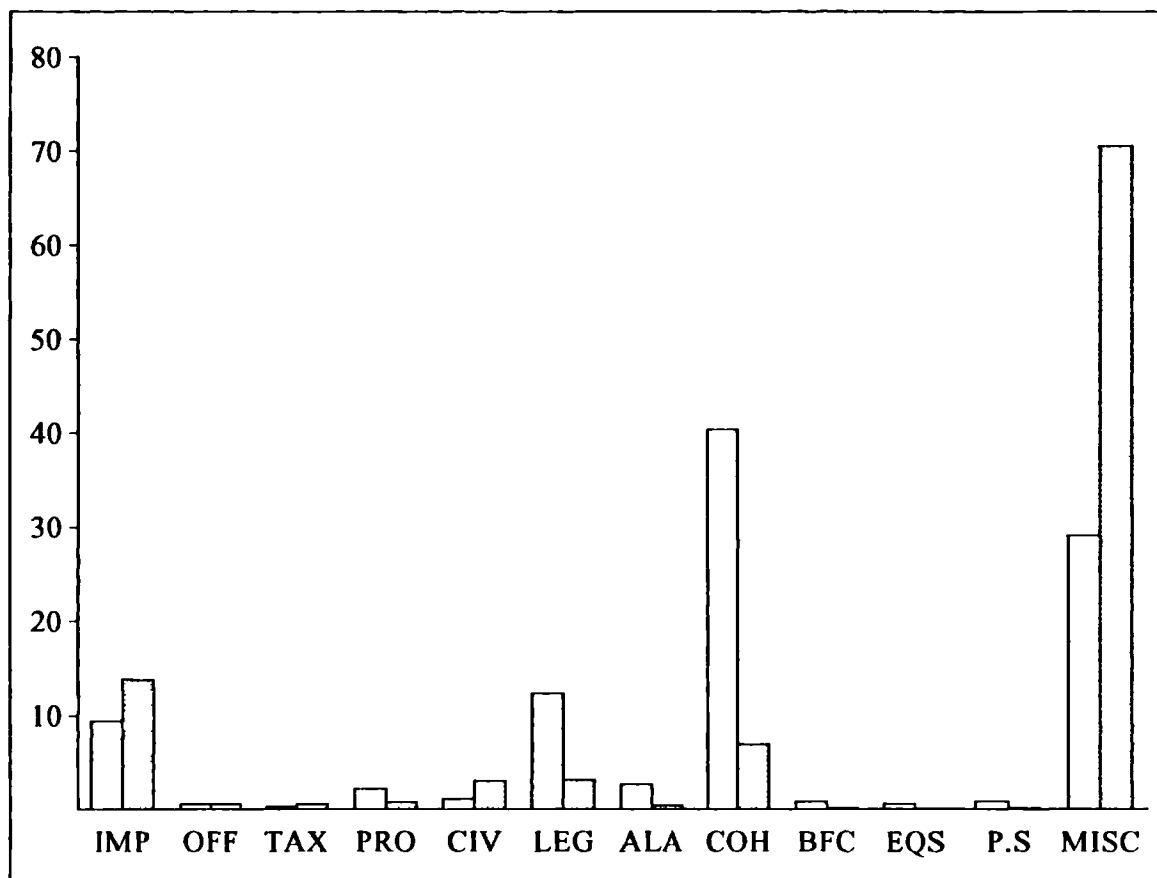


Fig 13 Percentages of sealings in different categories in Britannia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those twelve categories (shaded).

Britain is the only province to have sealings belonging to all categories and therefore the figures in the second column are exactly the same as those in Table IV. Comparison of these figures with those in the first column (and inspection of the resulting histogram) shows that Britain has an almost one and a half times lower than normal percentage of Imperial sealings, the normal percentage of Official sealings, half the normal percentage of Taxation sealings, three times the normal percentage of Provincial sealings, half the normal of Civic, four times the normal of Legionary, six times of those of Alae, nearly six times of those of Cohorts, six times the normal percentage for those of Beneficarii Consularis, Equites Singulares and Pedites Singulares and nearly two and a half times less than the normal percentage of Miscellaneous.

If it were not for the high percentages of sealings of Cohorts and Legions then the figures for Britain would look virtually normal. In fact, other military categories have also distorted the figures since several of the categories have only been identified in Britain. This all sits well with the general perception of Britannia as a military frontier province. When we compare these figures with those for the whole empire we can also see that Provincial sealings and those of Alae are also well represented. The ranking of the percentages of the province differs from those suggested by the figures for the whole empire in that Miscellaneous should be first but is second, Imperial should be second but is fourth, Cohorts should be third but are first, Legionary should be fourth but are third, Civic should be fifth but are seventh, Official should be seventh but are eighth, Taxation should be eighth but are ninth and Ala should be ninth but are fifth.

Dalmatia (Total: 5 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Legionary (1 example)	20%	4.25%
Miscellaneous (4 examples)	80%	95.75%

The two columns of figures produce the following histogram.

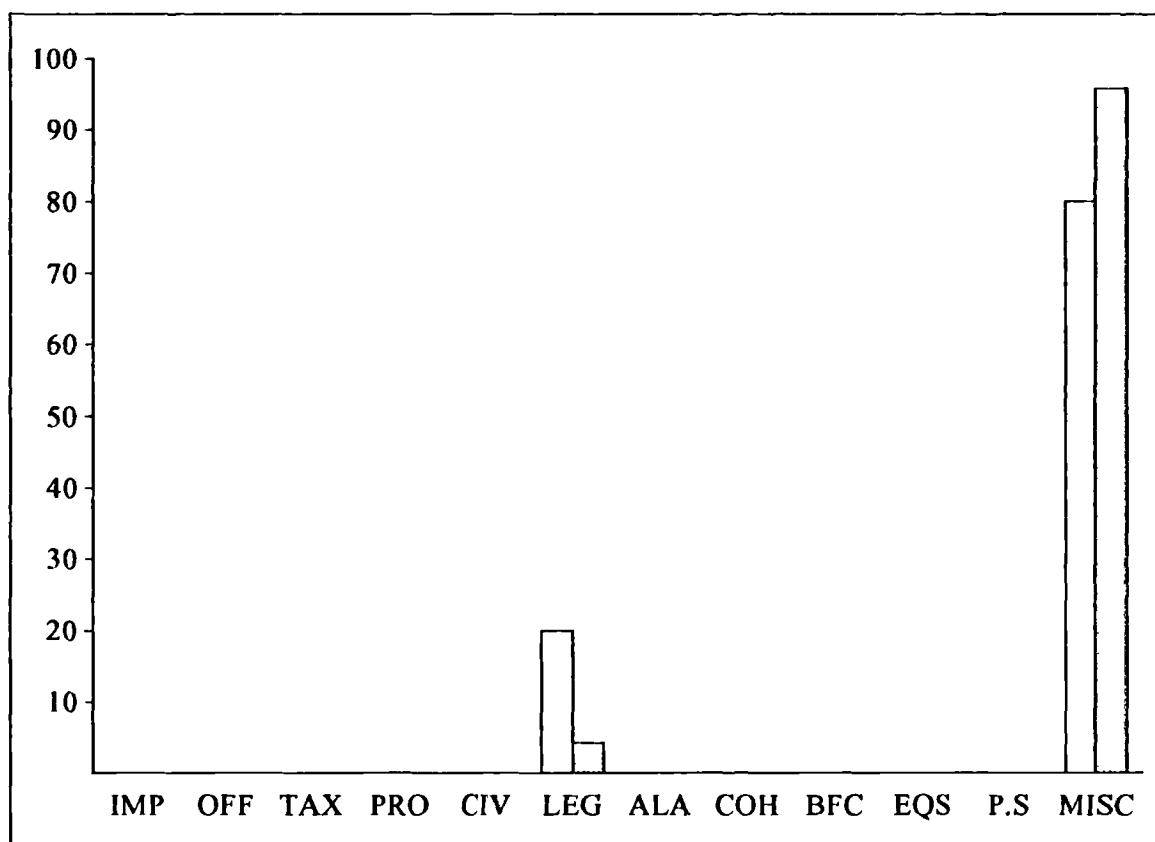


Fig. 14 Percentages of sealings in different categories in Dalmatia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those two categories (shaded).

Comparison of the first and second columns (and inspection of the resulting histogram) shows that the percentage of Legionary sealings is almost five times the norm (bearing in mind of course that we are talking about just one sealing) while that of the Miscellaneous sealings is below the norm.

The facts that the actual numbers involved here are so small and that there are only two categories means that it is almost impossible to say anything constructive about the sealings in Dalmatia. The absence of Legionary sealings over much of the empire has thrown undue weight on to this one example. It is interesting that even one Legionary sealing has been found here, considering their general empire-wide paucity. The ranking of the percentages for this province is the same as that suggested by the figures for the whole empire.

Gallia Belgica (Total: 53 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (16 examples)	30.19%	15.58%
Official (2 examples)	3.77%	0.64%
Provincial (2 examples)	3.77%	0.88%
Civic (2 examples)	3.77%	3.38%
Miscellaneous (31 examples)	58.49%	79.52%

The two columns of figures produce the following histogram:

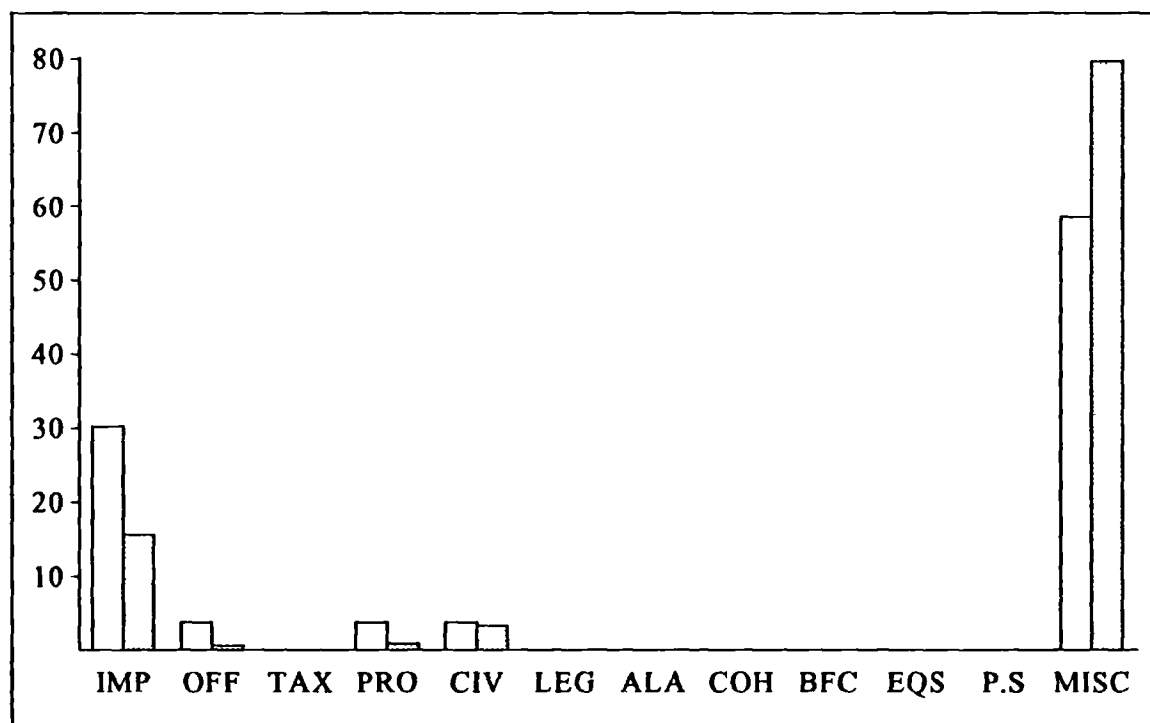


Fig 15 Percentages of sealings in different categories in Gallia Belgica (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those five categories (shaded)

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that for Gallia Belgica the percentage of Imperial sealings is twice the norm, of Official sealings almost six times the norm, of Provincial sealings four and a half times, roughly normal for Civic and nearly one a half times lower than normal for Miscellaneous sealings.

The fact that the percentage of Imperial sealings is higher than is normal for the whole empire is presumably connected with Trier's rôle as an administrative centre/imperial capital. The similar effect for the percentage of Official sealings could be explained as due to Trier's place as the headquarters of the procurator of Belgica and the two Germanies and subsequently of the Prefect of the Gauls. These points may also count for the higher than normal percentage of Provincial sealings. It may be that the lower than average percentage of Miscellaneous sealings is caused by these higher figures mentioned above. The ranking of the percentages for the province differs from that suggested by the figures for the whole empire in that the Civic, Provincial and Official categories should all be joint third whereas they are in fact third, fourth and fifth respectively.

Gallia Lugdunensis (Total: 1042 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (65 examples)	6.24%	13.99%
Taxation (9 examples)	0.86%	0.53%
Provincial (1 example)	0.1%	0.79%

Civic (2 examples)	0.19%	3.04%
Legionary (19 examples)	1.82%	3.17%
Cohorts (11 examples)	1.06%	7.08%
Miscellaneous (935 examples)	89.73%	71.4%

The two columns of figures produce the following histogram

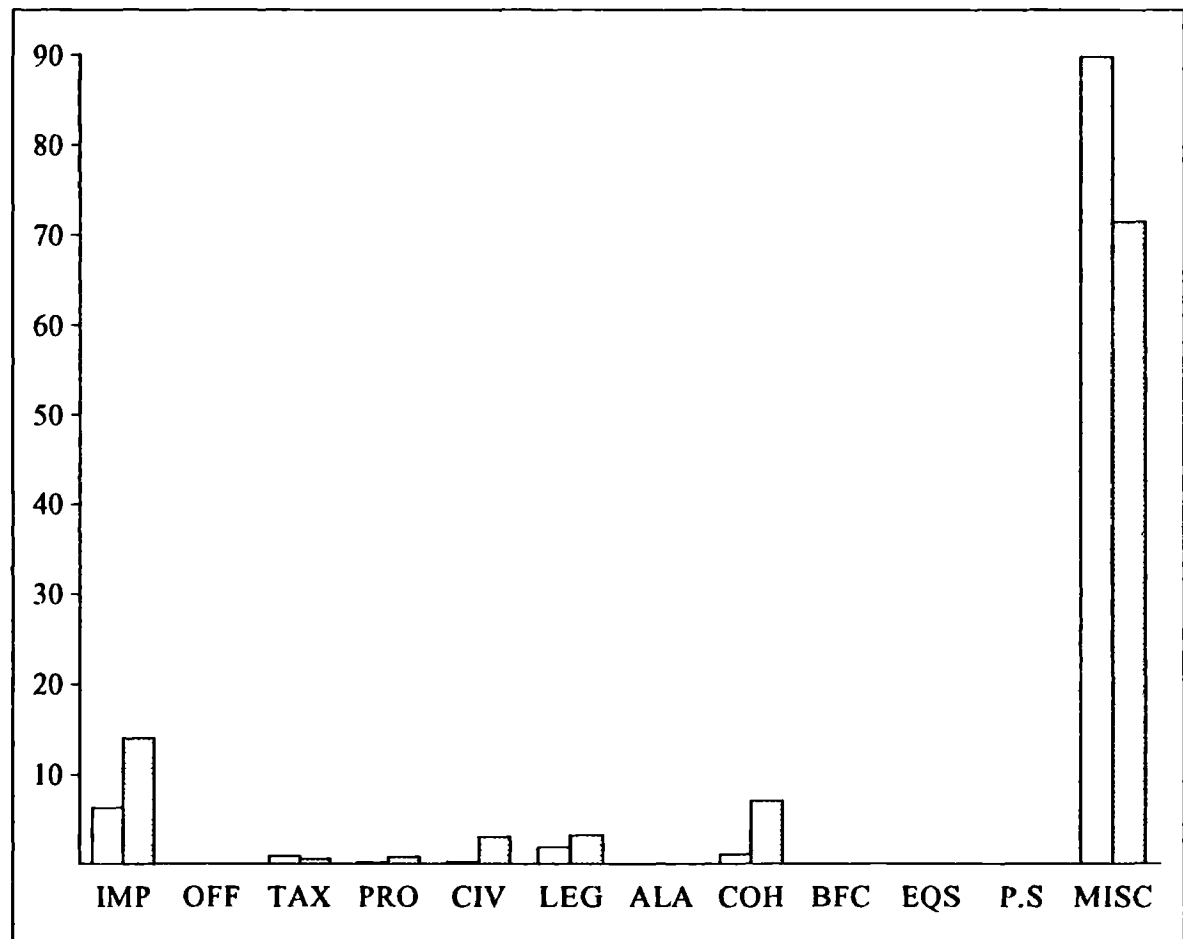


Fig 16 Percentages of sealings in different categories in Gallia Lugdunensis (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those six categories (shaded)

Comparison of the first and second column of figures (and inspection of the resulting histogram) reveals that for Gallia Lugdunensis the percentage of Imperial sealings is half the norm, of Taxation sealings one and a half times above the norm, of Provincial sealings eight times less, of Civic sealings sixteen times less, of Legionary

sealings nearly half, of sealings of Cohorts nearly seven times less than normal and of Miscellaneous sealings just above normal.

The percentage of Imperial sealings in Gallia Lugdunensis appears small against that of Miscellaneous sealings and this is confirmed by the figures for the whole empire. It should be remembered that the figures for the whole empire include this unusually large collection of sealings from Gallia Lugdunensis and so, for example, the huge number of Miscellaneous sealings cancel themselves out and tend to make Gallia Lugdunensis look more normal than it really is. The ranking of percentages for the province differs from that of the whole empire in that Cohorts should be third but are fourth, Legionary should be fourth but are third, Civic should be fifth but are sixth, Taxation should be sixth but are fifth and Provincial should be sixth but are seventh.

Gallia Narbonensis (only two Miscellaneous sealings)

Germania Inferior (only four Miscellaneous sealings)

Germania Superior (Total: 5 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (1 example)	20%	15.8%
Legionary (1 example)	20%	3.58%

Miscellaneous (3 examples)

60%

80.63%

The two columns of figures produce the following histogram.

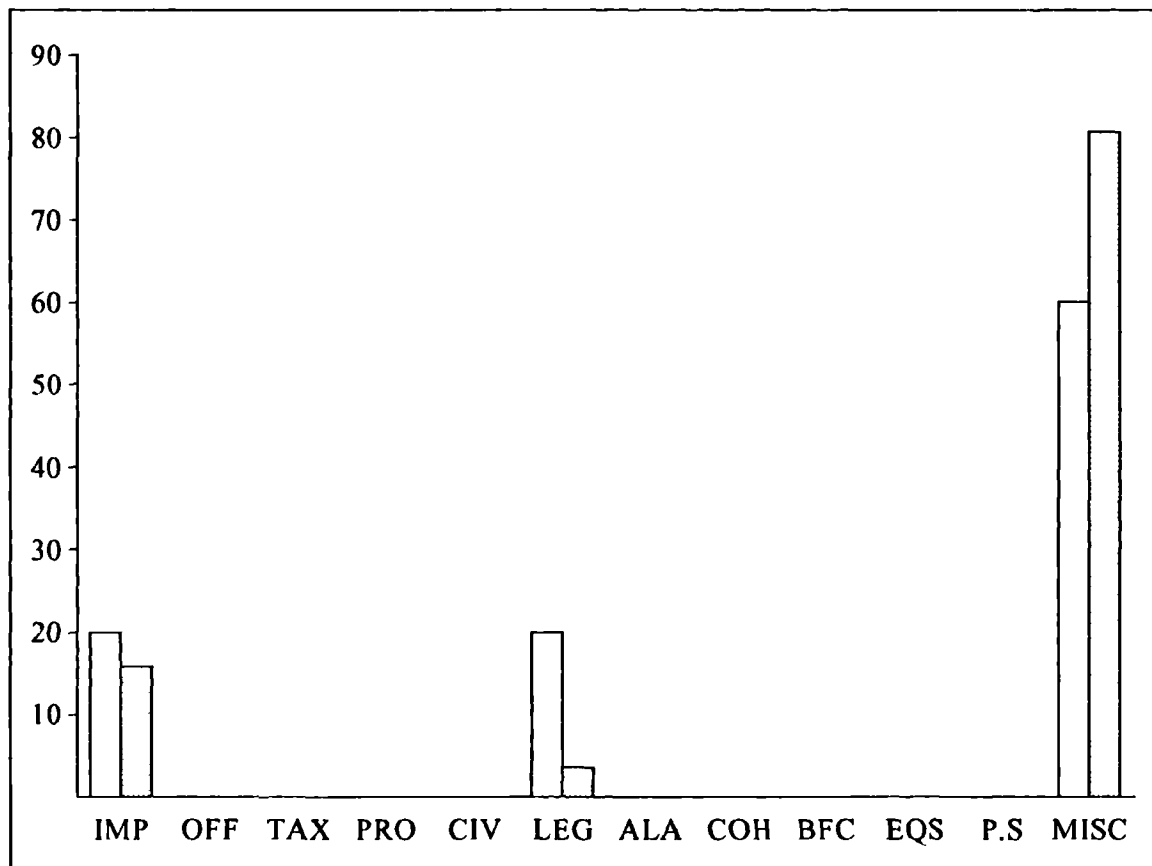


Fig 17 Percentages of sealings in different categories in Germania Superior (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those three categories (shaded)

Comparison of the first and second column of figures (and inspection of the resulting histogram) tells us that Germania Superior has a slightly above normal percentage of Imperial sealings, of Legionary sealings five and a half times the normal percentage and nearly one and a half times below normal of Miscellaneous sealings.

Yet again, here we see small numbers of actual sealings taking on inflated importance as percentages when there is really too little information to assess. The

ranking of percentages for the province differs from that suggested by the figures for the whole empire in that the Imperial category should be second and the Legionary third whereas they are both joint second.

Italia (Total: 119 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (48 examples)	40.34%	15.63%
Official (2 examples)	1.68%	0.64%
Taxation (2 examples)	1.68%	0.59%
Civic (1 example)	0.84%	3.4%
Miscellaneous (66 examples)	55.46%	79.75%

The two columns of figures produce the following histogram:

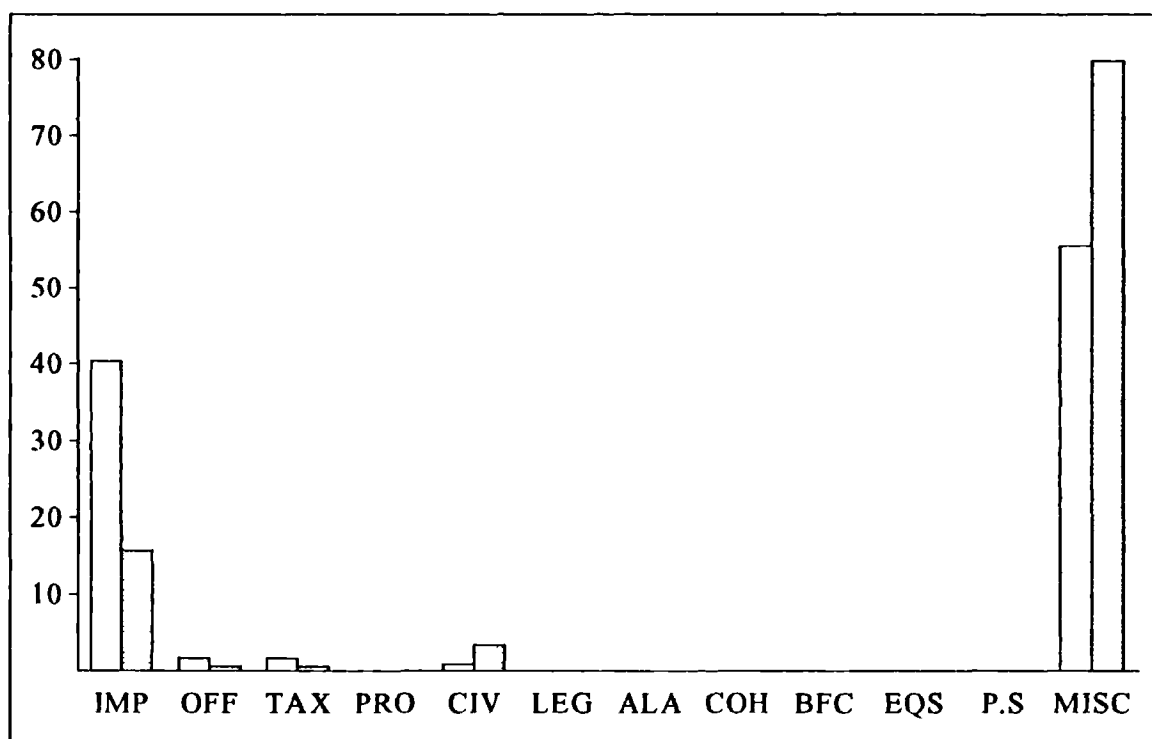


Fig 18 Percentages of sealings in different categories in Italia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those five categories (shaded)

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that for Italia the percentage of Imperial and Official sealings is two and a half times above the norm, nearly three times the norm of Taxation sealings, four times below the norm of Civic sealings and nearly one and a half times below the norm of Miscellaneous sealings.

The figures for Italy show that the percentage of Imperial sealings is rather high in relation to that of the Miscellaneous sealings. The figures for the whole empire confirm this and also reveal the higher than normal percentages of Official and Taxation sealings. Again, the percentages of these other categories profit at the expense of the Miscellaneous sealings. The ranking of the percentages for Italy differ from those suggested by the figures for the whole empire in that Official should be fourth and Taxation fifth whereas they are both joint third with Civic, which should be third, in fifth

position. The higher than average percentage of Imperial, Official and Taxation sealings fits well with the Rome (or ?Rome) provenance for most of the Italian material.

Melita (only 3 Miscellaneous examples)

Moesia Inferior (Total: 158 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (45 examples)	28.48%	15.05%
Official (1 example)	0.63%	0.62%
Provincial (4 examples)	2.53%	0.85%
Civic (30 examples)	18.99%	3.27%
Legionary (4 examples)	2.53%	3.41%
Miscellaneous (74 examples)	46.84%	76.8%

The two columns of figures produce the following histogram:

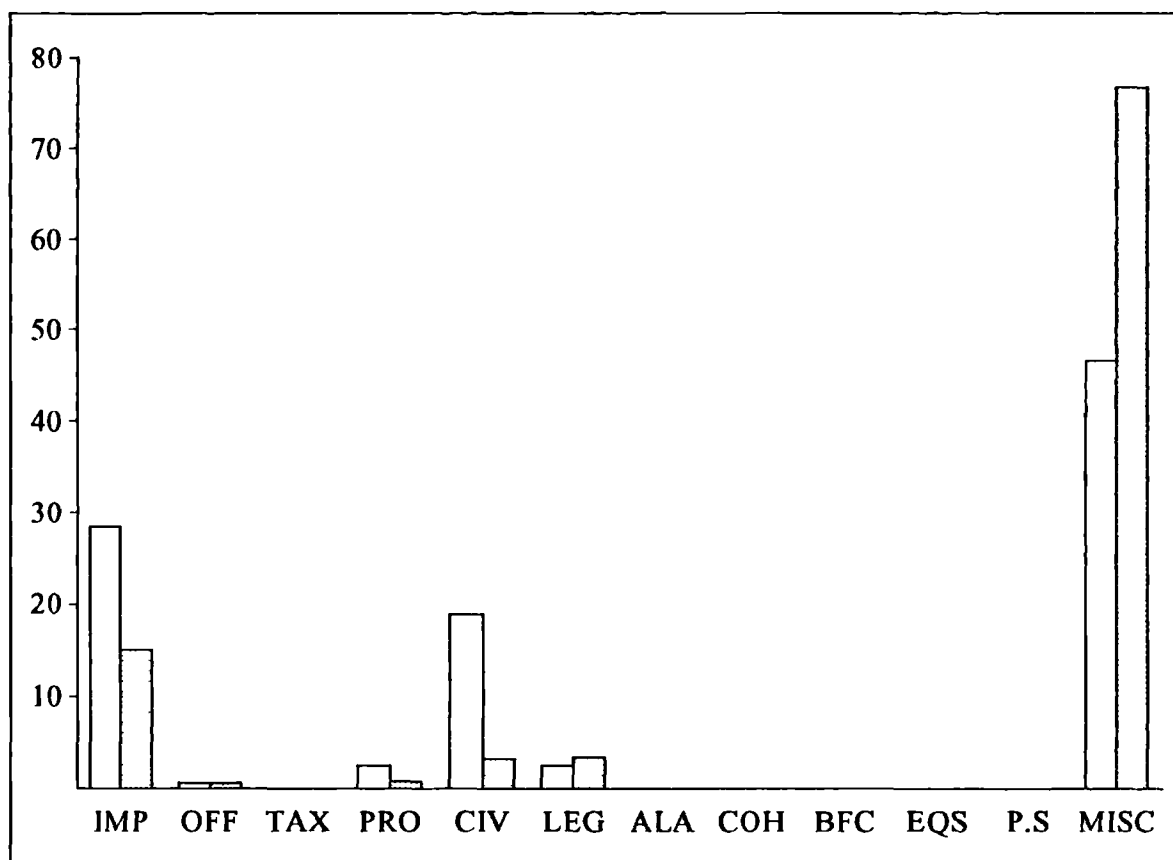


Fig 19 Percentages of sealings in different categories in Moesia Inferior (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those six categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) reveals that for Moesia Inferior the percentage of Imperial sealings is nearly twice the norm, of Official sealings normal, of Provincial sealings three times the norm, of Civic sealings nearly six times, of Legionary sealings just below normal and of Miscellaneous sealings over one and a half times less than the norm.

Looking at the percentages for the province we can see that the Civic sealings are more important than usual. Comparing these figures with those for the whole empire shows that they are indeed special but that this also applies to the Imperial sealings. The higher than average percentage of Imperial sealings may be caused by the frontier nature of the province with the campaigning that this brings about or, if we have misunderstood the function of these sealings, it could represent the delivery of produce from imperial

estates in, for example, Asia Minor. We know that a great deal was imported from that area and this is demonstrated in the much higher than average percentage of Civic sealings, the majority of which come from Asia Minor. The ranking of the percentages for the province are the same as those based on the whole empire with the exception of the Civic sealings which should be fourth but have moved into third position, displacing Legionary.

Noricum (Total: 11 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (6 examples)	54.55%	16.38%
Miscellaneous (5 examples)	45.45%	83.62%

The two columns of figures produce the following histogram:

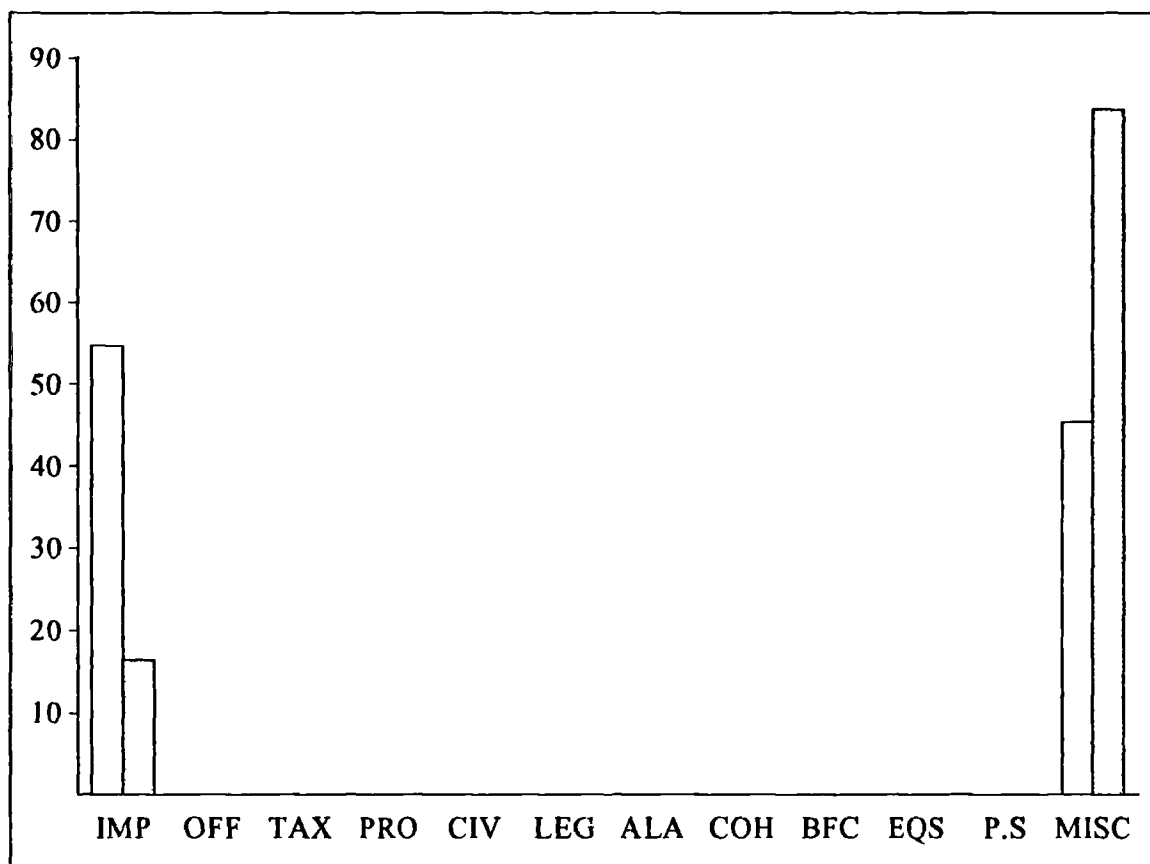


Fig 20 Percentages of sealings in different categories in Noricum (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those two categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that Noricum has over three times the normal percentage of Imperial sealings and nearly half the normal percentage of Miscellaneous sealings.

Again we have small numbers of actual sealings divided between only two categories which produce misleadingly impressive differences in percentage. However, the strange phenomenon of a higher percentage of Imperial than Miscellaneous sealings is highlighted when the provincial figures are compared with the normal figures for the whole empire. On account of these figures, the ranking of the percentages of the province have been reversed when compared with the whole empire

Numidia (Total: 16+ examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (23+ examples - source says 'several')	18.75%	15.82%
Civic (5+ examples)	31.25%	3.43%
Miscellaneous (8 examples)	50%	80.74%

The two columns of figures produce the following histogram:

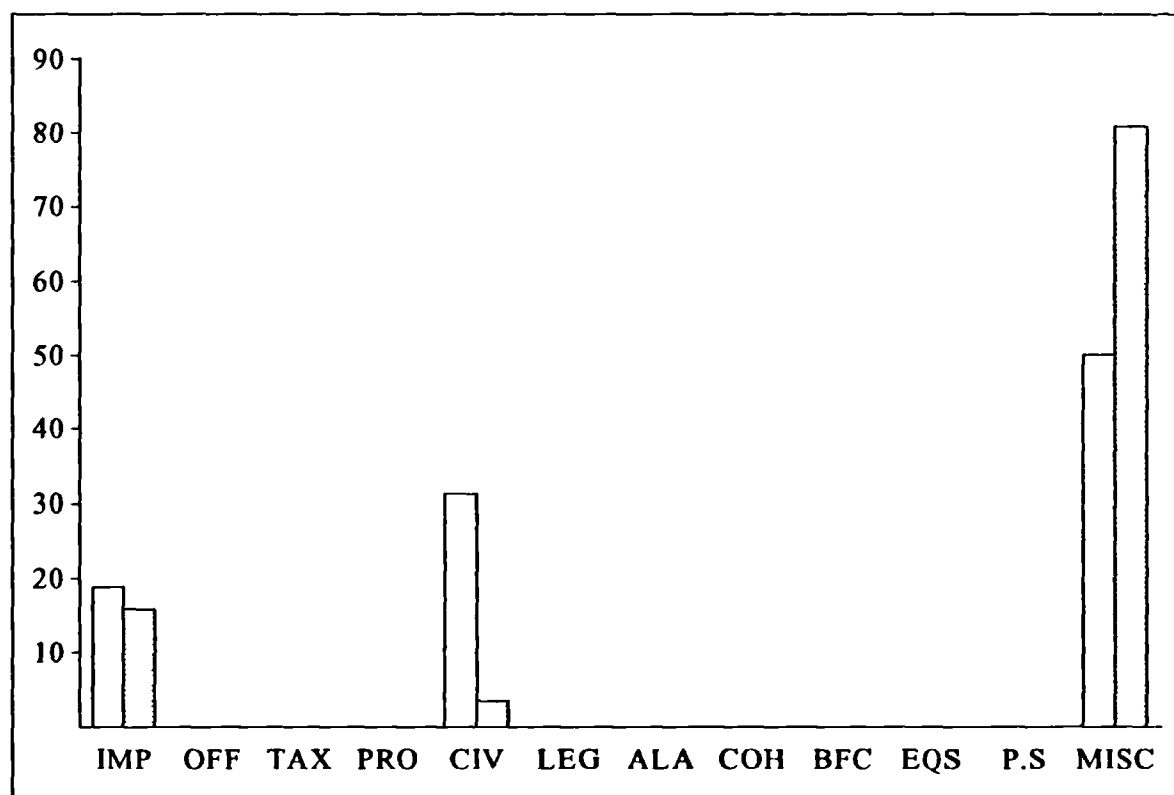


Fig 21 Percentages of sealings in different categories in Numidia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those two categories (shaded)

Comparison of the first and second columns of figures (and inspection of the resulting histogram) tells us that Numidia has nine and a half times the normal percentage of Civic sealings and one and a half times less than the normal percentage of Miscellaneous sealings. If our assumption is correct as to the approximate number of Imperial sealings, then Numidia has about the normal percentage.

The percentage of Civic sealings is much closer to that of Miscellaneous than normal and comparison with the figures based on the whole empire show that they are much more important than is usual. This is of interest because, rather unusually, they all name the city in which they were found [0364]. The ranking of the three categories in the province still has Miscellaneous at the top but Civic has swapped places with Imperial.

Pannonia Inferior (only 1 Miscellaneous example)

Pannonia Superior (Total: 30 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (15 examples)	50%	15.72%
Official (2 examples)	6.67%	0.64%
Civic (1 example)	3.33%	3.41%
Miscellaneous (12 examples)	40%	80.23%

The two columns of figures produce the following histogram.

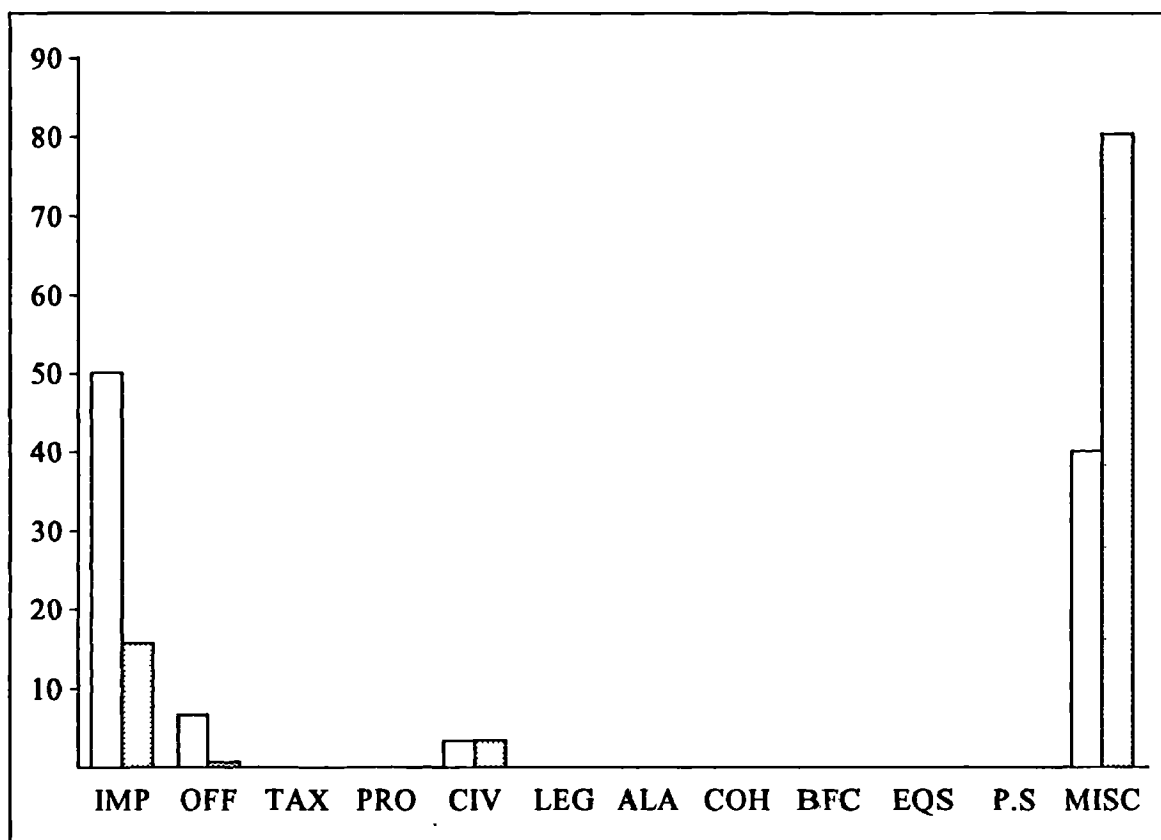


Fig.22 Percentages of sealings in different categories in Pannonia Superior (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those four categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that Pannonia Superior has three times the normal percentage of Imperial sealings, ten and a half times the normal percentage of Official sealings, the normal percentage of Civic sealings and half the norm of Miscellaneous sealings.

The figures for the province show that Imperial sealings were important here, more so than Miscellaneous sealings. This difference is even more marked when compared with the figures based on the whole empire. Official sealings also show a high percentage. The ranking of percentages based on the whole empire suggests that Imperial and Official should be second and fourth whereas they are first and third respectively. The majority of the sealings from Pannonia Superior were found in the frontier area along the Danube, which raises the question of whether or not these

Imperial and Official sealings were connected with military campaigns and/or trading with the barbarians.

Pannonia - unspecified (Total: 61 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (25 examples)	40.98%	15.72%
Official (4 examples)	6.56%	0.64%
Civic (1 example)	1.64%	3.41%
Miscellaneous (31 examples)	50.82%	80.23%

The two columns of figures produce the following histogram:

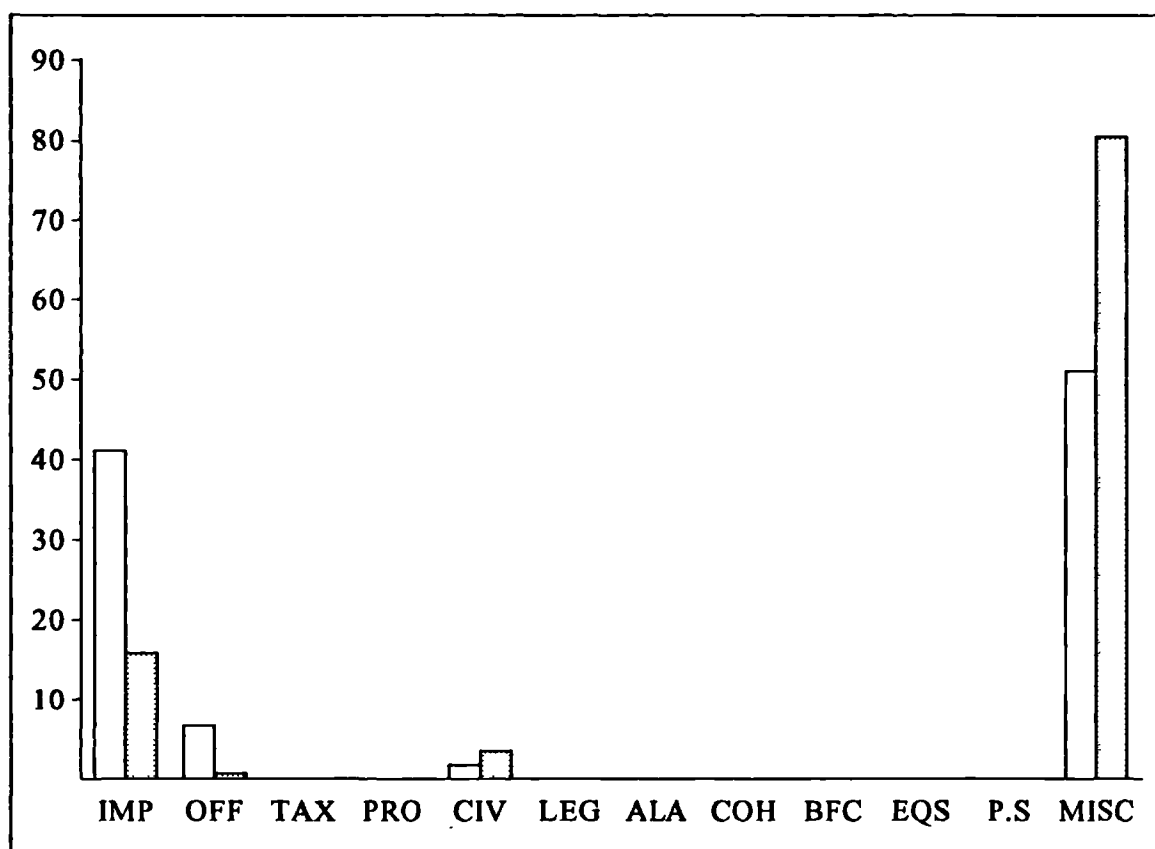


Fig.23 Percentages of sealings in different categories in Pannonia - unspecified (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those four categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) reveals that for Pannonia (without any further clarification) the percentage of Imperial sealings is over two and a half times the norm, of Official sealings over ten times the norm, of Civic sealings half the norm and of Miscellaneous sealings one and a half times below normal.

While Pannonia (without any further clarification) has the same range of four categories of sealings as Pannonia Superior, it does display some slight differences. The Miscellaneous sealings display a slightly greater percentage than the Imperial although comparison with the percentages based on the whole empire show that the Imperial sealings are still much more important than is normal. This again holds true for the Official sealings. In fact, the Official sealings are the only category which, for this

province, break the ranking of percentages based on the whole empire. They should be fourth (i.e. lowest) but are actually third. Despite the fact that we do not know the exact findspots of any of these sealings it could be suggested that they are from a similar region to those of Pannonia Superior i.e. the frontier area of the Danube, either in Pannonia Superior or Inferior.

Syria (Total: 11 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (2 examples)	18.18%	15.27%
Civic (1 example)	9.09%	3.31%
Legionary (1 example)	9.09%	3.46%
Miscellaneous (7 examples)	63.64%	77.95%

The two columns of figures produce the following histogram:

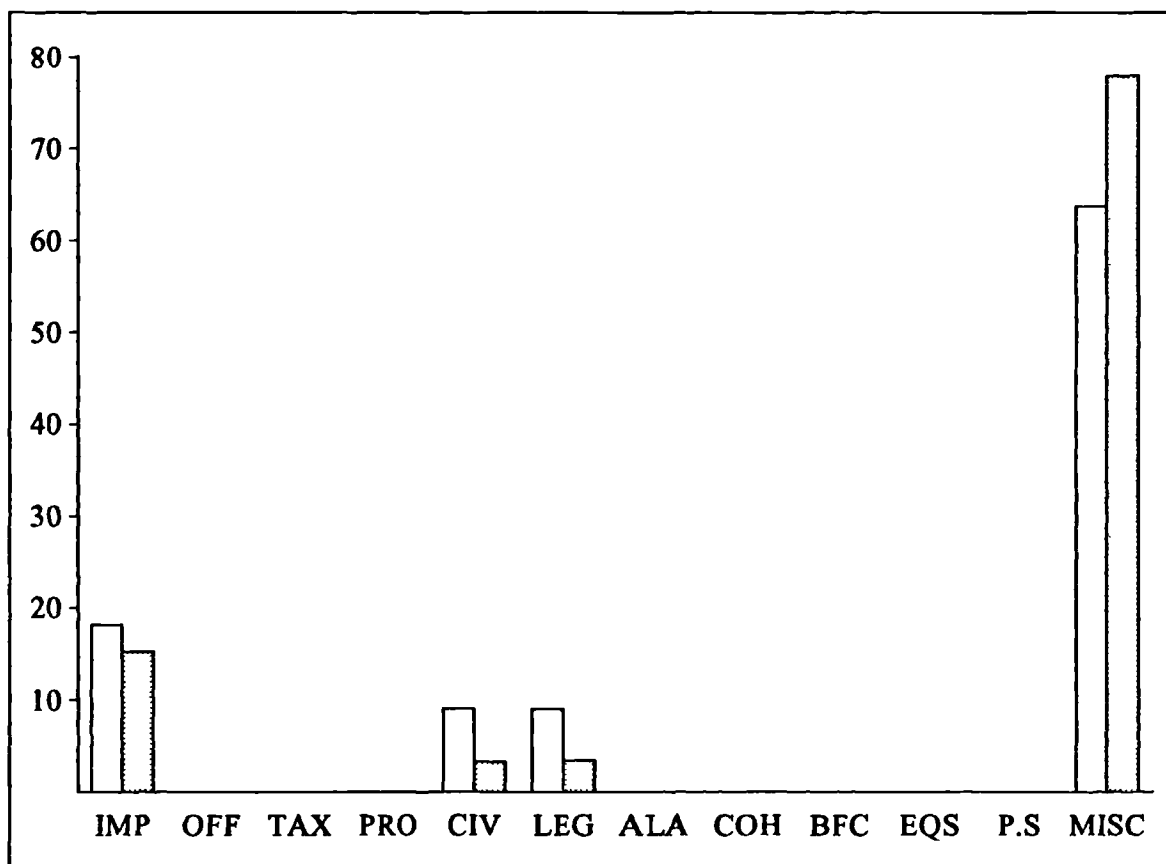


Fig.24 Percentages of sealings in different categories in Syria (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those four categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that Syria has a slightly above normal percentage of Imperial sealings, over two and a half times the normal percentage of Civic and Legionary sealings and below the normal percentage of Miscellaneous sealings.

The low numbers of actual sealings involved make it difficult to say anything useful here, although the ranking of percentages within the province is virtually the same as for those based on the whole empire.

Thracia (Total: 117 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (40 examples)	34.19%	15.68%
Provincial (2 examples)	1.71%	0.89%
Civic (20 examples)	17.09%	3.4%
Miscellaneous (55 examples)	47.01%	80.03%

The two columns of figures produce the following histogram:

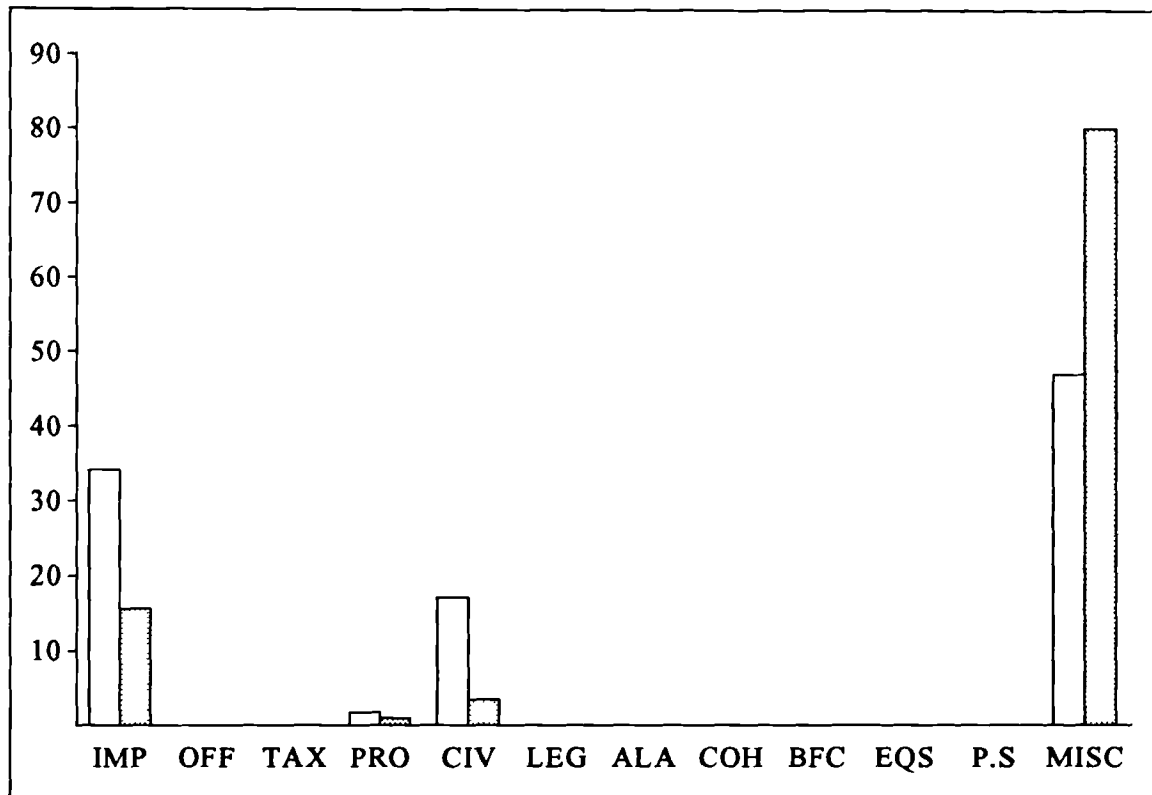


Fig 25 Percentages of sealings in different categories in Thracia (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those four categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that Thrace has over twice the normal percentage of Imperial sealings, twice the normal percentage of Provincial sealings, five times the normal percentage of Civic sealings and nearly half of Miscellaneous sealings.

The percentage of Imperial sealings in Thrace is not far behind Miscellaneous and that of Civic is not far behind Imperial. When we compare the provincial figures with those based on the whole empire we see that both Imperial and Civic sealings are more important than is usual. The ranking of the percentages of the province is the same as for those based on the whole empire.

Unknown Provinces (Total: 54 examples)

Number of sealings within each category	Percentage of provincial total	Whole empire category total as percentage of adjusted whole empire total
Imperial (12 examples)	22.22%	15.68%
Provincial (1 example)	1.85%	0.89%
Civic (2 example)	3.7%	3.4%
Miscellaneous (39 examples)	72.22%	80.03%

The two columns of figures produce the following histogram:

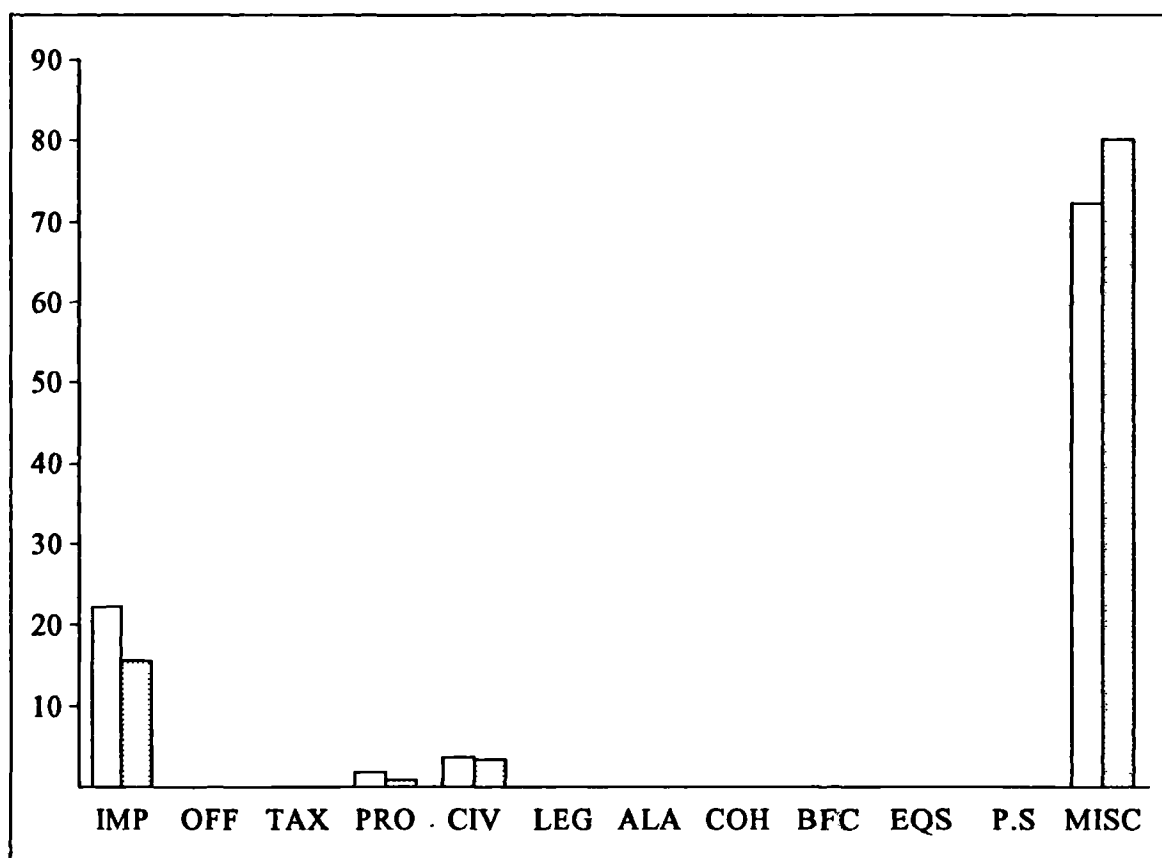


Fig.26 Percentages of sealings in different categories from unknown provinces (unshaded) compared with the category total for the whole empire expressed as a percentage of the whole empire total for those four categories (shaded).

Comparison of the first and second columns of figures (and inspection of the resulting histogram) shows that this collection of sealings from various unknown provinces has nearly one and a half times more than the normal percentage of Imperial sealings, over twice the normal percentage of Provincial sealings, the normal percentage of Civic sealings and roughly the normal percentage of Miscellaneous sealings.

These figures, particularly the last two, for sealings from various unknown provinces are not too dissimilar to the average and as such should not cause any alarm. As expected from a random collection, they seem to reflect the overall trends noticeable in the figures for the whole empire. The ranking of the percentages is the same as for those based on the whole empire.

Conclusions

As mentioned earlier, the quantity of sealings in most provinces is insufficient to provide reliable results in work of this kind. It is interesting to attempt the comparison of the nature of usage of sealings in these provinces but no detailed hypotheses should be built on such unstable ground.

THE ICONOGRAPHY OF ROMAN LEAD SEALINGS

This chapter will examine the types of designs found on lead sealings of all categories

Imperial portraits

Many imperial portraits are found on lead sealings. These are sometimes, but not often, of a similar quality to those seen on coins. An overview of the composition of portraits found on sealings reveals an important difference, in that there appear to be relatively more sealings bearing multiple busts (two, three or four) than is the case for coins. I have covered this more fully in chapter 11 but some of the main points should be mentioned here.

The examples in question are as follows: those showing two busts are [0036 - 0040]; [0042]; [0069 - 0071]; [0086]; [0094]; [0096]; [0100]; [0127 - 0133]; [0151]; [0159]; [?0178]; [0197 - 0199]; [0202A]; [0205 - 0206]; [0213](jugate busts); [0214 - 0223]; [0231]; [0233 - 0234]; [0239 - 0240]; [0252 - 0259]; [0266]; [0268]; [0281].

Those with three busts are: [0007A - 0008]; [0015]; [0021 - 0022]; [0053 - 0054]; [0058]; [0060]; [0087]; [0108]; [0152 - 0156]; [0166]; [0203 - 0204]; [0224]; [0227]; [?0239]; [0260]; [0263]; [0273]; [0282].

Those with four busts: [0043]; [0157 - 0158]; [0167]; [0180]; [0200 - 0202]; [0225]; [0261 - 0262].

The presence of only one sealing showing jugate busts [0213]¹ serves to highlight the more common technique of portraying busts facing each other, presumably in order

to ensure that the impressions were recognisable on lead. The sealings with four busts are extremely interesting since the various compositions are apparently unknown on coins. The most important of these are the impressions depicting the emperors of the first tetrarchy in two registers with each bust facing its partner [0180], [0200 - 0202], [0225], [0261]. This is certainly never seen on their coins which usually show a single emperor. Coins with different obverses would have been produced for all four members but could have been used regardless of the bust whereas it appears that a need was felt for the goods sealed to be despatched in the name of the tetrarchy as a whole.

There are many other imperial portraits which deserve special mention by virtue of the fact that there are other objects in the field. Some simply show items being held by the person portrayed, for example [0004] with a hand holding a ?flower in front of the bust, [0005] with a caduceus behind the bust and an unidentified shape in front, [0226] also with caduceus, [0177] with a sceptre behind the bust and [0182] with a shield at the side of the bust and a horse in front, as seen for example on a bronze medallion of Maximianus Herculeus (Vermeule, 1978, 182 and pl.19, 2). Other impressions bear symbols, for example [0084] with crescent and star, [0174] with a six pointed star, [0220 - 0221] with a star and [0176] with a round ornament consisting of a central sphere surrounded by dots

One bust is accompanied by a long-legged bird (?Phoenix) [0280] while another sealing shows four busts with a vertical dolphin placed centrally between them [0262]. Gerasimova-Tomova states that the busts are of Septimius Severus and his family and that the dolphin is of the same type with which the coinage of Byzantium was countermarked and that therefore this must be where the sealing originated (1994, 377-8, no.16). I have not, however, been able to find a dolphin countermark pertaining to Byzantium (Howgego, 1985).

Several busts are depicted with Victories who are crowning them with wreaths [0095], [0229], [0245 - 0246], [0251]. Another example shows two busts separated by a Victory [0281].

Not all of the objects can be identified with certainty, including those found in the following examples. [0206] (unless D and K ligatured), [0242] with shape in front of bust (could be a quiver of arrows), [0269] with objects above, in front and behind and [0270] with an object in front (possibly a club).

Religion/mythology

Deities, Personifications and mythological figures

Enough has been written in the past on the detailed iconography of Graeco-Roman deities and so this section will be restricted to factual information on which deities are present, unless there is any direct relevance to the figures' use on sealings. As in other sections, the evidence of sealings produced from purpose-made dies has not been separated from those impressed by ring intaglios. The Catalogue, however, will, in many cases, provide information as to size, shape and sometimes inscriptions which will enable the reader to gain some idea of the likely nature of the original matrix.

It can easily be seen that the deities depicted on lead sealings cover practically the whole classical pantheon and a few more besides. By and large these are the same gods and goddesses found on Roman imperial coinage and there are very few ostensible representations of specifically local or pre-Greek gods as are sometimes encountered on the provincial coinage (Butcher, 1988, 50). The reason for this may be that the majority of civic sealings are purely epigraphic and therefore do not provide us with any illustrations of the cities' tutelary deities

Of the originally Eastern religions which gained acceptance in Rome, that of Serapis [0840], [1019], [1268], [1270 - 72], [1274], [1518], [1541-3], Isis [0840], [1263 - 64], [1274], [1518] and Harpocrates [1274], [1543], [1582], [1794] is shown on several sealings, as is that of Asclepius [1383], [1630], [1659]. The god Bacchus appears on two examples, [0953] and [1768].

The personifications shown on sealings are Fortuna, Pietas, Salus, Spes, Tyche (I have used the Greek form to denote examples of Fortuna wearing a mural crown) and Victory. Most of these are common on coins and gems especially Fortuna and Victory, both of which are also the most popular on sealings. Out of the 15 Fortuna examples only four possess inscriptions. One of these is imperial [0018] whereas the other three clearly belonged to private individuals, [0921], [0986] and [1134]. There are 48 examples depicting Victory, 11 of which bear inscriptions. Nine of these inscriptions are imperial [0001], [0009], [0042], [0095], [0110], [0114], [0121], [0188 - 0189], while three are apparently private, [0856], [1073] and [1120]. The mural crowns on the figures which I have referred to as Tyche may suggest that these were intended to represent particular cities, although only in the case of one example, [0332], do we have an interpretable inscription to verify this. The shape referred to as a mural crown, however, may actually be a modius or calathus which Henig says is 'a Graeco-Egyptian conception which may link her with Isis' (1974, 99). The majority of Tyche sealings are anepigraphic but there are some others which bear inscriptions although these are incomplete [0657] and [1723].

The representations of the traditional divinities are generally typical of those encountered on intaglios and coins. Apollo is an exception to this in that there are no full length figures of him, the only ostensible image being a bust ([0530]).

Diana is also shown as a bust, with quiver over her shoulder ([1734 - 1736]) and standing with bow ([0662], [1627]).

Jupiter is depicted by a bust in two examples [1259] and [1574], the latter apparently placed on the back of an eagle. He is also shown as a standing figure holding various combinations of sceptre, thunderbolt and patera, sometimes with accompanying eagle [0459], [1280 - 1282], [1287 - 1288], [1318], [1348], [1583], [1657] Two sealings show him with other deities. in [0709] he is standing facing Mars and in [1677] he is with Hercules. One sealing depicts him as Zeus Ammon [0294].

Mars is the subject of many sealings, although I have included numerous figures referred to as Virtus by Dissard (1905, 83-6). Only one sealing shows a bust of him [1105], the majority depicting him as a standing figure holding spear and shield [0842], [1298], [1322], [1349], [1351 - 1362], [1799] and, more rarely, a parazonium [1319], [1363 - 1366], [1705]. Two sealings show him holding a small Victory (Victoriola) and spear [1320], [1350], while another two show him with palm and spear [1299], [1368]. Only one example shows him as Mars Gradivus with a trophy over his shoulder [1367]. One impression shows Mars facing Jupiter, as mentioned above [0709].

There are slightly fewer sealings depicting Mercury than Mars. This is surprising in light of the fact that Mercury was the god of traders. Thus one might have expected to find merchants protecting their goods with his image. Several of these impressions show busts of Mercury with or without his petasus [0226], [0632], [0660], [0839], [0849], [1042], [1088], [1267] while two examples show him seated, [1289] and [1290]. The majority, however, are standing figures with purse and caduceus [0379], [0639], [0804 - 0805], [0919 - 0920], [1300 - 1302], [1323], [1369 - 1370], [1742]. Two of these figures are accompanied by a cockerel [1301] and [1323] Three impressions show Mercury facing Fortuna [1751 - 1753].

Minerva is represented by one helmeted bust [0961] and three standing figures holding spear and shield [1198], [1324] and [1371]. However, seated figures with similar accoutrements are often described as Roma and I have followed this

Neptune is depicted on five sealings, all of which show him holding a dolphin and trident [0821], [0941], [0957], [0994] and [1121]. They all bear an inscription which, in at least two cases, appears to be the name of the merchant.

Venus is represented on four sealings, all of which show her as a standing figure. One is facing the front with objects on either side [0661], two show Venus Anadyomene wringing out her hair [0769] and [1305], and the fourth is Venus Victrix [1373].

The lesser divinities and figures from mythology are also found on sealings. Bonus Eventus is always depicted as a standing figure, usually holding ears of corn and a dish of fruit [0841], [1314], [1341], [1577] and probably [0707 - 0708] unless these represent satyrs. It appears to be one of the last two to which Henig refers as a goddess standing right (1974, no.816). He had not examined it and was apparently following Richmond (1936, 122, no.4). Bonus Eventus' female counterpart, Ceres, is shown seated with ears of corn and cornucopiae [1279].

One impression can be identified as Britannia by virtue of the accompanying inscription [0311].

Cupid is shown in several ways, often as a minor character in the scene [1305], [1340] and [1631]. On four impressions he is riding on a dolphin [0733], [0762], [0807] and [1166], on one he is riding a hippocamp [1343] and on another he is driving a quadriga [1548]. Two of the dolphin examples are almost certainly from the same matrix, [0733] from Kirmington and [0762] possibly from Ravenscar. Cupid is shown standing on at least two impressions, holding an arrow [1342] and embracing Psyche [1748].

Genii are shown with patera and cornucopiae on three private sealings which also name the owner [1076], [1079] and [1081] and on nine impressions which apparently refer to the customs station at Arles [0293], [0295 - 0297], [0299] and 0301]. Two other sealings show a Genius next to an altar.

Hercules is represented as a bust in six examples, often with a club and sometimes wearing a lion skin [0270], [0838], [0962], [1265 - 1266] and [1540]. He is shown standing with club and lion skin in two examples [1317] and [1575] and apparently without the lion skin in another [1345]. Only three sealings show the Labours, one with the Lernaean Hydra [1810] and two with the Nemean lion [1346] and [1514]. One impression shows him accompanied by another deity, Jupiter [1677].

One sealing shows Leda and the Swan [0710], following the identification by Martin Henig (1974, 103 & no.821). This is an almost abstract composition which Henig passes over lightly, despite his inspired identification.

Pan is possibly represented by a bust on one example [1767] and as a single standing figure on another [1325]. Three examples show Pan butting with a goat [0711 - 0713], while one shows him with two Cupids [1631]. Another, probably depicting the thiasos, may show him dancing, holding a ribbon above his head, with a satyr standing behind [0665].

Roma is depicted as a seated figure on two sealings [0274A] and [1700]. It should be pointed out that standing figures with similar equipment are usually described as Minerva and I have followed this.

Two sealings show the she-wolf suckling Romulus and Remus [0670], [1810]. On both of these the wolf is facing right. The most extensive use of the wolf and twins on the standard coinage is apparently the fourth century *Urbs Roma* issue where the wolf is facing left. On several 'Greek Imperials' from various Roman colonies in Asia Minor and Thrace, however, the wolf is facing in the same direction as on our sealings. Despite this information, we are still left with the possibility that the die-cutter was copying an *Urbs Roma* coin and simply neglected to cut it in reverse.

Salus is depicted as a single figure on two sealings, one showing her holding a flask and snake [0640] and another with an altar and snake [0664]. She also appears with Asclepius on three sealings [1383], [1630] and [1659].

Satyrs are represented by one sealing showing a bust [1740] and another showing three dancing together [1384]. There is a possibility that two of the sealings listed above under Bonus Eventus may be satyrs [0707 - 0708].

Sol appears as a radiate bust on two identical sealings [0705 - 0706] and as a standing figure on four others [0882], [1657], [1703] and [1743]. One sealing shows the bust of Sol facing the bust of Luna with an eagle, lion and snake also in the field [1273].

There are many impressions showing single or multiple figures which probably represent deities or characters from mythology. Among the more interesting are a draped, bearded figure seated right, resting his chin on his right hand with his elbow on his knee and a possible scroll in his left hand [1722]. He is facing a small figure (or statue?) standing left, which appears to be holding a palm branch in its raised right hand and an unidentified object in its left hand. The main, pensive figure in this scene is extremely well delineated. Another sealing has a similar composition but probably refers to a different story. In that impression the main seated figure is facing left and reaching out towards a small statue (?) standing right inside an arch [1741]. This scene may be connected with Diomedes seizing the Palladium from Troy, although the iconography is slightly different to that normally seen on intaglios.

Christianity

The Good Shepherd was a representation of Christ which had pagan antecedents but the sealings all follow the accepted Christian iconography of a figure, with a sheep over his shoulders, standing facing the front between two sheep [1655], [1702] and [1745]. A similar composition, dating to the early third century, can be seen in a fresco in

the crypt of Lucina in the Catacomb of St Callixtus (Strong, 1988, 258). The sealings, however, probably belong to the fourth if not the fifth century.

A similar composition is found in sealings depicting Daniel in the lions' den where a central figure, this time with his arms raised, is placed between two animals [1620], [1687], [1729], [1746], [1798]. There is a possibility, due to the amorphous nature of the animals, that some of these scenes represent St. Menas with two camels, as shown on terracotta flasks from Alexandria (Metzger, 1981, *passim*). The localised sphere of influence of the St. Menas story and the universal knowledge of the Daniel story suggest that the majority, if not all, of the sealings represent the latter. It is not impossible, however, for some of these sealings to have originated in Alexandria although we should remember that representations of St Menas are usually limited to these flasks. Similar compositions of Daniel in the lions' den can be seen in a fresco in the crypt of Lucina in the Catacomb of St. Callixtus, dated to the early third century (Strong, 1988, 258-9) and also in two frescoes in the Via Latina Catacomb dated to the first half of the fourth century (Ferrua, 1991, 64 & 145). The sealings probably date to the fourth or fifth century.

There is a possibility that [1619] and [1629] may show David killing the lion, although this is far from certain.

Other Christian symbols appear on lead sealings, such as fish and anchors. Since these are also open to more prosaic interpretation, I shall limit the list to those examples which show the more obviously Christian symbol of anchor and fish together [0651], [1122] and [1499].

The Agnus Dei may possibly be seen on three sealings with the Chi-Rho above, although neither the identification of the lamb nor of the Chi-Rho are certain [1632 - 1633], [1647]

On the subject of the Chi-Rho, it would seem that in the majority of cases in which this definitely appears on sealings it is being used as an official symbol for the fourth or fifth century government, and not as a simple declaration of faith. One exception to this is an example with an anchor placed below the Chi-Rho [0783].

None of the peacocks, doves or dolphins which are shown on sealings are ostensibly Christian symbols, with the possible exception of one example which places a small cross above the head of a dove [0864].

Two sealings actually have a cross as the main feature [1590], [1643] and a third shows a hand holding a cross between the thumb and forefinger [1593]. These all appear to be fifth century, if not later.

Gnosticism

There are at least four sealings bearing Gnostic impressions. One of these depicts the cock-headed and snake-footed Iao [0982] while another names him while showing a horned, bearded bust [0981]. The third and fourth bear the same impression which consists of a vertical line of text crossed halfway down by a horizontal line of text which shares one letter [0855]. This was classed as Gnostic by Dissard perhaps because its incomprehensibility appeared to label it as a *vox magica* (1905, 114). There is another sealing which may possibly bear a Gnostic inscription, *δυναμει*, 'through power' [0764].

Judaism

Two sealings show a menorah [1696], [1765] and a third probably does [0621]. One of these [1764] bears what is presumably Hebrew script on the obverse.

Human figures

There is one particular sealing which shows a man fishing [1796]. This is not the standard representation of a fisherman seated on a rock, but appears to show a man perched on a pole, a method of fishing still seen today in some countries. In attempting to research this (fruitlessly) I came across a very similar intaglio design of the third/second century B.C. which shows a man fishing from inside a snail-shell (Brandt, 1970, no.843, pl.97). The lead sealing is not as clear as the gem design but there are some very slight differences (such as a foot apparently sticking out from the line of the pole) which persuade me not to accept the snail-shell identification whole-heartedly.

Animals

The range of animals, real or imaginary, found on sealings is extensive. We find the following creatures, mostly as single figures but some in multiple groups: antelope, ape/baboon, bear, bee, bull, camel, capricorn, chimera, cockerel, crab, crayfish, crow, deer, dog, dolphin, dove, eagle, elephant, fish, fox, goat, griffin, hare, hippocamp, hippopotamus?, horse, hydra, ibis, lobster?, mouse, owl, ox?, panther?, peacock, pegasus, phoenix?, pig, ram, scorpion, sheep, shrimp, snail, snake, stag, swan, triton and (she-) wolf. In addition to this list there are many birds and several animals which cannot be identified any further.

From these, the numerically outstanding groups are eagles and lions. There are 41 sealings depicting an eagle as the main subject and 75 showing a lion. Many of the eagles are in poses unlike those found on intaglios and coins. The eagles on sealings are often squarely facing the front with wings raised and head turned to one side, whereas those on coins and gems are usually (although not always) in more realistic poses. The prevalence of the more simplistic pose may be due to a desire to ensure that the device was recognisable when impressed in the lead. An eagle in a similar pose is found on the lid of

a seal box from London (Hall & Merrifield, 1986, 10, fig.21). This came from a first century context and was believed, without any particular evidence, to have been used for government documents.

The majority of the sealings showing lions are from Lyon (58 examples) and all bear similar impressions. Many include crescents and differing numbers of stars in the field above the lion. Most just have a crescent, some have a crescent and three stars [1474 - 1475] and [1477], one has a crescent and seven stars [1476] while another has a crescent with a single star [1473]. This variety of stars may have some astrological significance (even the position of the crescent changes in relation to the stars) although the wide range of numbers may suggest that detailed investigation (e.g. *Britannia* xxi (1990), 369, note 30) would be fruitless.

Some of the animal sealings bear scenes which deserve specific mention. One shows an ape or baboon riding on an elephant [0752]. This may be a parody on Bacchus' Indian Triumph. Another bears the representation of what appears to be a camel carrying a load on its back [1708]. The device of a mouse with a whip driving a chariot drawn by two eagles (or cocks?) is found on three sealings [1481] and is also known from gems. The representation of a bull on the provincial sealings of Britannia Inferior [0306 - 0307; 0310; 0313] is thought to show that this was the symbol of the province although the origin of this is uncertain.² The similar image of a stag on the sealings of Britannia Superior [0308 - 0309] is also of uncertain origin.³

Combinations

Many sealings bear combinations of heads and sometimes legs. There are several different types although many show Silenus heads with cockerel legs and a horse's head on top. Others simply show conjoined heads

An interesting type, not strictly a combination, shows a cock with a human head dressed as Mercury (i.e. holding a caduceus and wearing a petasus) [0714 - 0717]. The surviving examples are rather faint and it appears to be one of these which Henig has understandably interpreted as a 'long legged bird standing right' (1974, no.810). The relevant details, however, can be recognised when compared with an undated example from Berlin which is described as 'ein Hahn als Hermes mit dem Kopfe des Gottes (geflügelter Petasos), das Kerykeion unter dem Flügel' (Furtwängler, 1900, vol I, pl.xlvi, no.29,; vol.II, 222, no.29).

Inanimate objects

Some sealings have inanimate objects as their main image. One of the most interesting of these shows four sacrificial implements [1759] Gerasimova-Tomova says that these implements are found on coins throughout the Republic and up to the third century (1994, 387, no.55) but I believe that the exact composition found on this sealing appears only on coins of Nero as Caesar (AD50-54). Several sealings show ships, [1501 - 1502], [1714], [1760 - 1761]. The last two ships are of unusual form with strongly curved bows. These are said to be similar to those seen on coins of Lucius Verus from Philippopolis (Gerasimova-Tomova, 1994, 382) but I have been unable to verify this. Chariots are also seen on sealings, [0675], [1500], [1548], [1661], [1763]

One sealing [0524] has previously been published as being purely epigraphic with no design (*RIB* 2411.246) but there is a possibility that it may in fact bear a very interesting decoration

This is a sealing marked BFC referring to the *beneficarii consularis*. There appears to be a shape after all three of the letters. The first, between the 'B' and the 'F' is unidentified but between the 'F' and the 'C' and again after the 'C' there is a shape which could be some sort of floral decoration. These consist of two spherical objects

either side of a stem which opens out into a flower with a tall thin centre piece. However, with some imagination, these shapes could be interpreted as the special spear ('Benefiziarierlanze') carried by *beneficarii* as the insignia of their rank (Bishop & Coulston, 1993, 126). These sometimes take the form of flattened spearheads with two circular holes, symmetrically placed either side of the shaft, cut out. I have not been able to discover any bearing the flower-shape/crown? (although cf. *op.cit.*, figs. 12 & 91) but I feel that the presence on the sealing of the two circular shapes with a possible spear point above may be important. The use of this representation on a sealing is not as strange as it may seem since Bishop and Coulston note that "the spearhead shape was also applied to baldric fastening plates, decorative belt appliqués and strap terminals". Therefore it was an accepted decoration for equipment used by the *beneficarii* and, were any symbol to be used on their sealings, this would be the most logical.

Designs possibly from outside of the empire

Some designs are unlike anything encountered on Roman gems or coins and parallels have had to be sought elsewhere. There are two sealings with similar designs depicting a plant with three flowers/buds [1713], [1758] These bear some resemblance to the representation of three pomegranates on the shekel of the First Jewish Revolt (AD66-70) but the war and subsequent siege would seem to preclude the distribution of goods from Jerusalem at that time. In fact, we find closer parallels in Sassanian stamp-seals of the fifth century AD which are also thought to show pomegranate plants (or tulips) (Bivar, 1969, nos.LA6-7; Henig, 1994, no.1023).

As mentioned in the section on imperial busts, several are depicted with Victories who are crowning them with wreaths [0095], [0229], [0245 - 0246], [0251]. While they may have been copying actual Roman examples, it should be pointed out that the Bosporan kings produced coins with similar designs showing, for example, Constantine being crowned (Butcher, 1988, 77). This may be important in view of the fact that the

last three sealings mentioned above are from Thrace. Many of the Bosporan coins definitely copied Roman originals showing various joint *Augusti* facing each other, and again we are reminded of the quantity of sealings bearing such designs which have been found in Thrace and Moesia Inferior. The majority of these sealings are probably from inside the empire but it may be best to keep an open mind

Similar impressions on other items

There are extremely few impressions on other objects which immediately bring to mind those on our sealings. There is one legend however which is probably worth mentioning here since it appears on at least two other types of item. The sealing [0209] apparently bears the inscription SPES IN DEO placed around a bust. This legend is also found on one side of a *tessera* with a bust on the other (Rostovtzeff & Prou, 1900, pl.I, no.4) and, around a Chi-Rho, as a stamp on pewter ingots (*RIB* 2406.1-8). It seems likely that the phrase was not a real affirmation of belief and was probably just being used as an official motto in all of these cases.

Epigraphic styles

It would be extremely helpful if we were able to date lead sealings by the style of the inscriptions found on them. This, however, is virtually impossible and even dangerously misleading. On the other hand, epigraphy can provide some information.

One of the most illegible inscriptions on a lead sealing is that on [0235] which reads AVG / IMP with the last three letters ligatured. On account of its rough execution this looks almost like an abstract pattern which is unusual for a sealing apparently referring to the emperor. It is difficult to say which imperial agency would have produced

such a sealing, although perhaps we should consider an imperial estate with someone using an improvised matrix.

Some sealings bear inscriptions which include strange letter forms. Two examples, [0320] and [0368], include a heavily serifed letter 'T' which has a small tail curving to the right, giving it the appearance of a retrograde 'J' with a crossbar. This would appear to have been influenced by a cursive (either Old Roman Cursive or New Roman Cursive⁴) or uncial form. Interestingly, the inscription on [0368] is in Greek whereas that on [0320] is in Latin but refers to a Greek-speaking area (and was probably engraved by a Greek speaker) so they may both take their form from the lower-case Greek ταν.

Another sealing with a strange letter form is [0321] which has strangely-shaped 'I's. One of these is based on part of the letter 'O', extending from c.11.00 clockwise to c.6.00, while another is similar but with a kink at about 3.00 thus rendering the letter as the number 3. These are probably based on cursive forms, although the hooked top is more closely paralleled in Old Roman Cursive which was comparatively rare in Egypt by the AD280s (Tomlin, 1988, 87). I can find no parallel for the example resembling the number 3.

Possible examples of matrices

It would appear from the impression of surrounding bezels that many lead sealings were impressed using gem stones. These are usually the anepigraphic sealings which bear designs typical of the standard intaglio repertoire. Other dies were probably made of metal and took the form of stamp-seals. The subject of boulloteria and their possible use is covered in chapter 2 ('Typology of Roman lead sealings'). That chapter also includes detailed study of the two-piece dies used for the majority of military sealings.

Another type of matrix for lead sealings which has been posited is the group of bronze cuboid dies which have been found in Britain.⁵ The suggestion that they were linked with the production of lead sealings was first made by Martin Henig in connection with the example from Kingscote (1977, 319-21). The slight differences between the designs on the cube and the reverse types of coinage of the third century led him to believe that it had not been a die for making counterfeit coins. The intaglios on a later discovery in Shropshire are, however, more like those on coins (although not exactly paralleled) since three follow the obverses of coins, with busts and legends, while the other three are in the style of the reverses of coins, including consulship numbers (Mills, 1994, 72-4). Two of the obverses are of Antoninus Pius with the third showing Marcus Aurelius as Caesar (the latter had been recut and Mills suggests that it may have replaced another bust of Antoninus). Mills says that the cube could not have been used to make coins since the striking would have damaged the uppermost die. I would add that it is unlikely that these were intended to defraud since the high quality of the busts is let down by the lack of parallel for the legends. If a counterfeiter was going to produce such fine work one would expect that he would have taken the trouble to ensure that the legends were correct. The pairing, however, of obverses and reverses is interesting.

Assuming that these two cubes possessed a similar function (which is far from certain considering the time-span involved), could they have been used in the manufacture of lead sealings? I do not believe so on account of the resulting shape of the impression. These intaglios all have circular pelleted borders (except for one on the Kingscote cube) but would leave a surrounding square impression in the lead (if the flan were large enough) since they are engraved on each side of a cube. Virtually all sealing impressions are the same shape as any border included in their design. In addition, it is usually only purely epigraphic matrices which have a square or rectangular shape. For the Shropshire example in particular, the reverses which include numbers of consulships and salutations as imperator are completely unknown in the sphere of lead sealings. The only allowance that I am willing to make is that, in the same way that these cubes are rare, so might be any lead sealings which they produced. New lead sealings found in Britain quite

often possess previously unknown impressions and so it is not impossible for sealings produced by this method simply not to have been discovered yet

There are two interesting matrices which were not for use with lead sealings but which should be mentioned here.

The first was found in the theatre of Philadelphia in Lydia. It is a bronze matrix, 4.5cm high and 6cm wide. It shows busts of Septimius Severus (facing right) between Caracalla and Geta and dates to AD209-11 since Geta is laureate. The inscription reads Κλ(αυδιος) Βασιλειδης δεκαπρωτος (Dedeoglu & Malay, 1986, 101-2; *AE* 1986, no.672).

The second matrix, also of bronze, has a diameter of 8.6cm and was found in the Roman customs house in Savaria (modern Szombathely), although I have not been able to discover whether or not the identity of the building is based solely on the evidence of the matrix (*AE* 1968 no.423; Hainzmann & Visy, 1991, 164-5). It bears a retrograde inscription which Mócsy gave as C(aius) TIT(ius) ANT(onius) PECVLIARIS COND(uctor) VECT(igalis) OCT(avae) PANN(oniarum) II ANN(o) (conductionis) XII while Hainzmann and Visy have C(aius) TIT(ius) / ANT(onius) PECV / LIARIS CO / ND(uctor) VECT(igalium) OC / T(o) PANN(oniarum) (duarum) / ANN(o) XIII. Ørsted dates this to the second half of the second century AD (1985, 259). It is difficult to say what this matrix was used to stamp although the letters appear to be raised, suggesting that it was used in conjunction with ink rather than any fictile material.

On the subject of matrices, we should also look at the evidence found on lead sealings for the alteration of dies. We have seen above the suggestion that one side of a bronze cuboid die was completely recut but sealings can only reveal the alteration of individual letters. The main example is [0271] but this is not a simple matter of recutting. The 'B' on the rev. seems to be of an inferior quality to the other letters and appears to have an incuse rectangle around it. If the rectangle on the sealing had been raised then we could say that the letter on the mould had been recut by having the area around it

lowered. The fact that it is incuse, however, must mean that the rectangle on the mould was raised, possibly suggesting that a new piece of metal, bearing the letter, had been let into the mould. This may have been done to cover a mistake at the time that the die was originally being cut, although we would expect the inset letter to be of the same quality as the others. The time spent on the high-quality engraving of the bust could explain the desperate measures needed to correct the subsequently-discovered spelling mistake.

A similar effect is seen on [0017] which has individual depressions around three of the letters (O, N and S) forming the inscription *Constan[s] P F Au[g]*, again suggesting that the matrix had been raised in these places. These depressions, however, follow the shape of the letters carefully, especially the O and the N, and so may have been left raised on the die in order to emphasize the letters.

Another possible example is [0421] for which Frere says 'the die has made a depression around R, not all of which survives' (*RIB* 2411.43) although this does sound rather different.

Notes

1. Another possible example [0269] is probably just double-struck.
2. Frere suggests that it was the badge of *legio VI*, based at York, the capital of Britannia Inferior but admits that there is no other evidence to support this (*RIB* 2411.34). His reference to [0416], whether or not that does show a bull, is of no use here since several other legionary sealings have reverses impressed by intaglios which were the personal property of the soldier responsible and not intended to refer to the legion itself.
3. Hassall's suggestion (quoted by Frere under *RIB* 2411.37) that the stag on [0309] was a misinterpretation of the capricorn of *legio II Augusta* can now be disregarded in light of the more recent discovery of [0308] which clearly shows a stag.
4. Unfortunately our sealing [0320] covers the period of changeover between the two styles and so we cannot suggest which was the model for this letter.
5. There are at least two of these cuboid dies in existence in Britain. In 1992 Martin Henig (*pers. comm.*) told me that a member of staff at the Ashmolean Museum knew of another example but when I contacted her some time later she had little recollection of this although she thought that it may have been brought in for identification. She was unable to turn up any further information following a detailed search of several departments in the museum and for any possible notes that she may have made at the time. Nigel Mills (1994, 73) says that there is a third example in the British Museum but Catherine Johns has informed me that this is not in the Department of Prehistoric and Romano-British Antiquities. She feels that it may have been brought in for identification and that the story has arisen from that. The member of staff at the Ashmolean Museum says that it is conceivable that Mills' own example is the one which was submitted there for identification.

CONCLUSIONS

It is clear from the group of chapters concerning the evidence for use among different categories that, despite their convenience for cataloguing, most of these categories of sealings are not as clear cut as they may at first appear. For example, we have seen that some Miscellaneous examples may in fact be Military, some Imperial sealings may have been used on behalf of the army (as may some Official examples), many Civic examples were connected with municipal customs dues and the majority of Provincial sealings are probably Official.

Not only does the use of sealings have to be considered separately for each category but even for examples within the same category, not just on account of the contamination mentioned above but because of the varied uses that these sealings could be put to.

Our findings can be summarised as follows:

Imperial sealings - All Imperial sealings would presumably have guaranteed the physical integrity of the contents and would have acted as proof of exemption from custom duties. Many of these sealings may have been attached to supplies for the army but need not suggest the presence of the emperor.

Official sealings - Despite the lack of hard evidence, it is likely that Official sealings usually indicated exemption from customs duty, in addition to any guarantee of physical integrity of the contents. Only the suggested sealings of the *Praefectus Praetorio Galliarum* may have anything of interest to tell us.

Taxation sealings - The fact that we only have single-sided examples of sealings in this category suggests that they were used to ensure that no untaxed goods were added later to the packages for which dues had already been paid.

Provincial sealings - We cannot assume that these sealings would have provided exemption from customs dues but we are probably correct in saying that they advertised the authority by which they had been sealed (i.e. the governor of that province) and would also have deterred any tampering

Civic sealings - The majority of these sealings were probably used to show payment of customs dues. There is no direct evidence that any were used as labels to advertise the place of origin or to guarantee quality, although it is not impossible.

Military sealings - The majority of Military sealings (i.e. those from Britain) were used to protect their contents and, quite often, to name the person responsible. The Military sealings from Lyon probably signified exemption from customs dues but this would not have been necessary for the majority since they were only used within Britain.

Miscellaneous sealings - The main group within the Miscellaneous category, that of sealings belonging to private individuals would almost certainly have provided security but may also have acted as a label to expedite recovery of one's goods from a ship's cargo. They are not, however, connected with the payment of customs dues since they are purely for the benefit of the merchants named.

The use of the work in chapters 10, 11 and 12 to form any detailed conclusions is rather dangerous on account of the limited quantities of sealings involved in the calculations. It is hoped that the work is interesting *per se* and that the methods can be used in the future but, at present, there are insufficient numbers of sealings to make any safe claims from the results.

From the above summaries, it can be seen that the basic rule of thumb for the use of Roman lead sealings is that virtually all sealings probably provided security for the contents of their packages (Taxation sealings and most Civic sealings doing so in order that nothing was added rather than taken away) while any sealing from a government agency (i.e. Imperial; Official; Military, but not necessarily Provincial) would have an added purpose of denoting exemption from dues at any customs point passed *en route*. The Taxation sealings and most Civic sealings would show that payment of dues had already been made on the goods thus sealed, while only those of private individuals within the Miscellaneous category (and possibly the Provincial sealings) would possess nothing more than a security/recognition significance.

ABBREVIATIONS

<i>AAITAB</i>	<i>Acta Associationis Internationalis Terra Antiqua Balcanica.</i>
<i>ACM</i>	<i>The Acts of the Christian Martyrs</i> , ed H Musurillo, 1972, Oxford
<i>Acta Arch.</i>	<i>Acta Archaeologica Academiae Scientiarum Hungaricae.</i>
<i>AE</i>	<i>L'Année Epigraphique.</i>
<i>Amm. Marc.</i>	Ammianus Marcellinus, <i>Historia.</i>
<i>AMN</i>	<i>Acta Musei Napocensis.</i>
<i>Ann. d. Inst.</i>	<i>Annali d'Istituto di Corrispondenza Archeologica.</i>
<i>AUS</i>	<i>Annuaire de l'Université de Sofia (Годишник на Софийския Университет).</i>
<i>Ann. Nass.</i>	Not located - reference from CIL XIII 10029.151
<i>Antiq. Journ.</i>	<i>The Antiquaries Journal.</i>
<i>Anz. Wien.</i>	<i>Anzeiger der Österreichischen Akademie der Wissenschaften (Philosophisch-Historische Klasse).</i>
<i>Arch. Ael.</i>	<i>Archaeologia Aeliana.</i>
<i>Archaeol. Polsk. Akad.</i>	<i>Archaeologia - Rocznik Instytutu Historii Kultury Materialnej Polskiej Akademii Nauk.</i>
<i>Arch. Cant.</i>	<i>Archaeologia Cantiana.</i>
<i>Arch. Journ.</i>	<i>The Archaeological Journal.</i>
<i>ASFN</i>	<i>Annuaire de la Société de française de numismatique</i>
<i>BACTHS</i>	<i>Bulletin archeologique du Comité des Travaux Historiques et Scientifiques.</i>

B.A.R.	British Archaeological Reports.
BCACR	<i>Bullettino della Commissione archeologica comunale di Roma</i>
BIA	<i>Bulletin de l'Institut d'Archéologie.</i>
BJHS	<i>The British Journal for the History of Science</i>
BMC	<i>British Museum Catalogue of Greek Coins, 1873-1927, London</i>
Bonn. Jahrb.	<i>Bonner Jahrbücher</i>
Britannia	<i>Britannia. A Journal of Romano-British and Kindred Studies.</i>
Bull. Dalm.	<i>Bullettino di archaeologia e storia Dalmata.</i>
BSNAF	<i>Bulletin de la société nationale des antiquaires de France.</i>
Bull. d. Istit.	<i>?Bullettino dell'Istituto Storico Italiano</i>
BVBKABG	<i>Bulletin van de Vereeniging tot Bevordering der Kennis van de Antieke Beschaving te 's-Gravenhage.</i>
CIL	<i>Corpus Inscriptionum Latinarum, 1863-, Berlin</i>
Cod. Just.	<i>Codex Justinianus.</i>
Cod. Theod.	<i>Codex Theodosianus</i>
Compt.-Rend d'Hipp.	<i>Comptes-Rendus d'Hipp .. Not located - reference from CIL VIII 22656.17-18.</i>
C'W	<i>Cumberland and Westmorland Antiquarian and Archaeological Society, Transactions of</i>
Daremberg-Saglio	<i>Daremberg, C , & Saglio, E., Dictionnaire des Antiquités Grecques et Romaines d'après les textes et les Monuments, Paris, 1877-.</i>

<i>Denkschr. Wien.</i>	<i>Denkschriften der Österreichischen Akademie der Wissenschaften (Philosophisch-Historische Klasse).</i>
<i>Derbys. A.J.</i>	<i>Derbyshire Archaeological Journal.</i>
<i>Dig.</i>	<i>Digesta Iustiniani Augusti</i> , ed T.Mommsen, 1870, Berlin.
<i>Dissert. Arch.</i>	Not located - reference from C'IL XV 'Sigilla Varii Generis', <i>passim</i> .
<i>Diz. Epigr.</i>	<i>Dizionario Epigrafico di Antichità Romane</i> , de Ruggiero, E., (ed.), 1886-, Rome.
<i>EE</i>	<i>Ephemeris Epigraphica.</i>
<i>Epigr. Anatol.</i>	<i>Epigraphica Anatolica.</i>
<i>Gallia</i>	<i>Gallia.</i>
<i>Gaz. arch.</i>	<i>Gazette archéologique. Recueil de monuments pour servir à la connaissance et à l'histoire de l'art antique.</i>
<i>HA</i>	<i>Historia Augusta.</i>
<i>IGB</i>	<i>Inscriptiones Graecae in Bulgaria Repertae</i> I, ed. G. Mihailov, (2nd ed.), II-V, Sofia, 1958-70.
<i>IGRRP</i>	<i>Inscriptiones Graecae ad Res Romanas Pertinentes</i> , ed. R. Cagnat, J. Toutain, P. Jouguet, G. Lafaye, Paris, 1906-27.
<i>IJNA</i>	<i>The International Journal of Nautical Archaeology.</i>
<i>IJNAUE</i>	<i>The International Journal of Nautical Archaeology and Underwater Exploration.</i>
<i>ILN</i>	<i>Illustrated London News.</i>
<i>ILS</i>	<i>Inscriptiones Latinae Selectae</i> , ed. H.Dessau, 3 vols. in 5 parts, 1892-1916.

<i>Itin. Ant.</i>	Antonine Itinerary (<i>Itinerarium Antonini Augusti</i>)
<i>Itin. Burd.</i>	Bordeaux Itinerary (<i>Itinerarium Burdigalense sive Hierosolymitanum</i>)
<i>JÖAI</i>	<i>Jahreshefte des Österreichischen Archäologischen Instituts in Wien.</i>
<i>JJP</i>	<i>Journal of Juristic Papyrology.</i>
<i>JOM</i>	<i>Jahrbuch des Oberösterreichischen Musealvereines</i>
<i>JRA</i>	<i>Journal of Roman Archaeology.</i>
<i>JRS</i>	<i>Journal of Roman Studies.</i>
<i>Kurtr. Jahrb.</i>	<i>Kurtrierisches Jahrbuch.</i>
Liddell & Scott	<i>A Greek-English Lexicon</i> , New Edition (rev. Stuart Jones and Mackenzie), 1968, Oxford.
<i>Litt. Numismat. Vindobon.</i>	<i>Litterae Numismaticae Vindobonensis.</i>
Lucian, <i>The Ship</i>	Lucian, <i>The Ship</i> .
<i>MAIBL</i>	<i>Mémoires de l'Académie des Inscriptions et Belles-Lettres.</i>
<i>MEFRA</i>	<i>Mélanges de l'École Française de Rome.</i>
<i>Mitteil. aus Öst-Ung.</i>	<i>Archäologisch-epigraphische Mitteilungen aus Österreich-Ungarn.</i>
<i>Mittheil. des arch. Instituts, röm.</i>	<i>Mittheilungen des deutschen archäologischen Instituts, Abth. römische Abtheilung.</i>
<i>Mitt. d. Öst. Numismat. Ges.</i>	<i>Mitteilungen der Österreichischen Numismatischen Gesellschaft.</i>
<i>MSNAF</i>	<i>Mémoires de la Société Nationale des Antiquaires de France.</i>
<i>Not. Dig.</i>	<i>Notitia Dignitatum omnium tam civilium quam militarium.</i>

<i>Not. d. Scavi</i>	<i>Notizie degli Scavi di antichità.</i>
<i>Num.Köz.</i>	<i>Numizmatikai Közlöny.</i>
<i>OCD</i>	<i>Oxford Classical Dictionary</i> , 1970, Oxford.
<i>PAmh</i>	<i>Amherst Papyri</i> , Grenfell, B P., & Hunt, A S., (edd.), 1900-01, London.
<i>Philostratus, Vit. Apol.</i>	<i>Philostratus, Vita Apollinii</i>
<i>Philostratus, Vit. Soph.</i>	<i>Philostratus, Vitae Sophistarum.</i>
<i>PIR</i>	<i>Prosopographia Imperii Romani.</i>
<i>Pliny, Ep.</i>	<i>Pliny, Epistulae.</i>
<i>PLRE</i>	<i>Prosopography of the Later Roman Empire.</i>
<i>Pontica</i>	<i>Pontica - Acta Musei Tomitani.</i>
<i>Ptolemy</i>	<i>Ptolemy, Geographia.</i>
<i>RÉSE</i>	<i>Revue des Études Sud-Est Européennes.</i>
<i>Rev.Afr.</i>	<i>Revue Africaine. Journal des travaux de la société historique Algérienne par les membres de la société.</i>
<i>Rev.Num.</i>	<i>Revue Numismatique.</i>
<i>RIB</i>	<i>The Roman Inscriptions of Britain.</i>
<i>RMD</i>	<i>Roman Military Diplomas</i> , Roxan, M.M., 1978-, London.
<i>RMR</i>	<i>Roman Military Records on Papyrus</i> , Fink, R.O , 1971, Cleveland
<i>RNMSAC</i>	<i>Recueil des Notices et Mémoires de la Société Archéologique du département de Constantine.</i>
<i>Röm. Öst.</i>	<i>Römisches Österreich, Jahresschrift der österreichischen Gesellschaft für Archäologie</i>

<i>SCN</i>	<i>Studii si Cercetări de Numismatica.</i>
Seneca, <i>Brev. vit.</i>	Seneca, <i>De Brevitate Vitae.</i>
<i>SIG</i>	<i>Sylloge Inscriptiomum Graecarum</i> , ed. W. Dittenberger, 3rd ed., 1915-24, Leipzig.
Stephanus B.	Stephanus Byzantinus, <i>Ethnika.</i>
Strabo	Strabo, <i>Geographus.</i>
Suetonius, <i>Nero</i>	Suetonius, <i>Nero.</i>
<i>Tab. Peut.</i>	<i>Tabula Peutingeriana.</i>
<i>Tab. Vindol.</i>	<i>Vindolanda: The Latin Writing-tablets</i> , Bowman, A.K., & Thomas, J.D., 1983, London.
Themistius	Themistius, <i>Orationes.</i>
<i>T. Lancs. & Chesh. H.S.</i> ²	<i>Transactions of the Lancashire and Cheshire Historic Society</i> , series 2.
<i>T. Lond. Middl. A.S.</i>	<i>Transactions of the London and Middlesex Archaeological Society.</i>
<i>Trier. Zeit.</i>	<i>Trierer Zeitschrift.</i>
Vegetius	Flavius Vegetius Renatus, <i>Epitoma rei militaris.</i>
<i>Zeitschr. für öst. Gym.</i>	<i>Zeitschrift für österreichische Gymnasien.</i>

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